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The Poetry of Prompts: The Collaborative Role of Generative Artificial Intelligence in the Creation of Poetry and the Anxiety of Machine Influence

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Abstract

2022 has been heralded as the year of generative artificial intelligence (AI). Generative AI like ChatGPT and Stable Diffusion, along with a host of others launched late in the year and immediately disrupted the status quo of the literary and artworlds, leading to outcries to ban ?AI Art? and spawning an entirely new market of NFTs. Fears over the ?death of the artist,? and the ?death of college composition,? however, are unfounded when considering the historical adoption of emerging technologies by creatives and the reconsideration of authorship that began with poststructuralism and the Foucauldian Death of the Author in 1967.

Index terms—

1 Introduction

he rise of generative artificial intelligence (AI) and machine learning (ML) has sparked a profound examination of what it means to be human. AI has shown a capacity for types of creativity and artistic expression with the rise of generative AI for text-based and image-based content creation. Given these qualities have been traditionally held to be uniquely human, an existential crisis among creative communities have been generated, and a reconsideration of human cognitive and creative abilities is underway (Pavlik, 2023; Varela, Thompson, & Rosch, 2017). The new algorithmic abilities have undermined previously held beliefs on what being human means and what of our abilities can be automated, thereby raising the question: "What does it mean to be human?" (Goldstein et al., 2023; Jo, 2023). However, creativity cannot be reduced to a product evaluated by experts or experienced by a community. Instead, the process and act of creativity are dynamic, individualized, dialogical, and transactional (de Bruin & Merrick, 2023; Kimmel & Hristova, 2021). And whereas the recent rise of generative AI seems to demonstrate abilities unlike their machine-learning predecessors, such pre-trained, transformative models still operate in a way distinct from human cognition and creativity.

Few disruptions to the creative and educational communities have resulted in such a quick and loud response as generative AI. At the close of the Fall 2022 semester, ChatGTP had just been launched by OpenAI, and academics, distracted by final exams, grading, and administrative and service duties, few took note of the coming digital maelstrom. The new abilities of a range of AI tools seemed to be released and impact many fields simultaneously. By the Spring 2023 semester, a "crisis" was sounded across educational institutions, leading to an all-out ban of access in school systems (News Staff, 2023). Weissman summarized a sentiment shared by many in academia in *Inside Higher Ed* "What winter of 2020 was for COVID-19, winter of 2023 is for ChatGPT and higher education will never be the same" (np). But as K-16 education was caught off-guard, the technology behind such tools as ChatGPT has been in the making and components with us for years (Lund & Wang, 2023).

To understand the significance of the rise of AI and the digital age, a brief review of the history and development of the field is necessary. Artificial intelligence (AI) encompasses a broad range of computer programming functionality, including some tasks previously considered the sole domain of the human mind. The types of functionalities can be divided into various specialized areas, such as robotics, computer vision, machine learning

1 INTRODUCTION

(ML), and natural language processing (NLP) (Zhang, Zhu, & Su, 2023). The latter, which involves the ability of AI to process and comprehend written and spoken communication, is at the foundation of daily interactions with information and is perhaps the most common form of AI the general population engages within the form of virtual assistants like Siri and Alexa (Liu et al., 2022). NLP technology processes and analyzes vast amounts of data and is also used in search engines and smartphones (Chowdhary & Chowdhary, 2020). NLP-based AI goes beyond simply analyzing and improving information access, as it is also capable of assisting writers in their creative processes, including structure, editing, and refinement. Currently, word-processing software, such as Microsoft Word and Grammarly, are equipped with standard features, including spell and grammar checking, version control, and style and language analysis (Yang et al., 2022). support, and digital art (Aydy'n & Karaarslan, 2023). ChatGPT is not just a threat to Google and Alphabet (GOOGL). Still, it is one of many generative AI technologies that could revolutionize various industries by creating text, images, video, and computer programming code independently. As noted, the key to the rise of generative AI is the improvement of NLP models, which help computers understand human writing and speech (Rahaman et al., 2023).

These rapid advancements in AI have prompted a widespread debate about the implications of these technologies on creative writing, particularly in genres such as poetry, fiction, and creative writing (Cox, 2021; Plate & Hutson, 2022). Moreover, Harold Bloom's notion of "The Anxiety of Influence," (1973) which stated that all poets and writers are influenced by their predecessors and that this influence can generate a sense of anxiety or fear, driving the poet or writer to create something new and original, need be updated. We propose a new framing and term known as "The Anxiety of Machine Influence" given these newfound anxieties and insecurities surrounding the role authors now play in the creative process (Alloulbi, Öz & Alzubi, 2022; Bloom, 1997). Such a new framing should be tempered by Gilbert and Gubar's (1979) criticism of Bloom's and rocentric perspective in their concept of "the anxiety of authorship," arguing that women writers of the nineteenth century lacked predecessors to overcome and instead experienced a sense of "wrongness" and impostor syndrome. But regardless of gendered and rocentric perspectives on authorship, the question remains: "What makes human writing... well, human?" To answer that question, we must consider the role played by emotion in the creative process.

In fact, the role of emotion and fear in creative writing remains a crucial aspect that sets human writing apart from AI (Vladeck, 2014). According to posthumanist theory, emotions such as fear and anxiety cannot be replicated by AI (Herbrechter & Callus, 2008). In this vein, the Star Trek: The Next Generation (1987) (1988) (1989) (1990) (1991) (1992) (1993) (1994) character, Data, serves as an example of the limitations of AI in the realm of creativity. Despite his technical proficiency, Data's writing is lacking in emotion and is ultimately uninteresting (Finn, 2018). The novel *Klara and the Sun* by Ishiguro (2021) further explores the relationship between AI and creativity through the experiences of Klara, an artificial friend who observes human behavior. Despite her advanced observational skills, Klara is unable to experience emotions fully and must navigate the dangers of investing too heavily in human promises. As these examples illustrate from the realm of fiction and popular culture, the inability of machines to experience emotion thus limits their abilities to create humanly.

Furthermore, in recent years, a growing body of research has explored the implications of AI on creative writing and education (Creely, 2023; Plate & Hutson, 2022). However, NLP-based AI has now moved beyond its traditional role in grammar and spellchecking and has become a more robust writing aid. The innovative development takes place at the intersection of human-computer interaction (HCI), natural language generation (NLG), and computational creativity (Machado, Romero, & Greenfield, 2021). Now, machines can serve as co-authors in the writing process, collating, compiling, rephrasing, and so on, while the human supervises, guides, and edits the output. Research into this collaboration between AI and writers has moved beyond computer science and has now become a topic of broader discussion (Cox, 2021). As an illustration, Zeiba (2021) discussed the potential of artificial intelligence (AI) in writing on the well-visited Literary Hub website. The author observes that while the use of AI in writing is not novel, it has garnered increased attention and plays a more significant role in the creative process. The year 2020 saw the publication of *Pharmako-AI*, as reported by Amerika (2022), representing a groundbreaking milestone in the field of AI-assisted book composition, as it was the first known instance of such a book being authored using "emergent AI" techniques. With an ever-increasing array of AI writing tools available, the role of authorship must be clearly defined, including considerations relating to copyright for non-human entities.

Previous examples cited, however, were restricted to those in academia or with access to robust AI tools. Vaezi & Rezaei, 2019). AI can offer a range of benefits for writers, such as increasing efficiency and productivity, enhancing language proficiency, and aiding in the development of new and innovative writing styles. It can also provide access to large datasets and resources, assisting writers in conducting research and exploring new topics. For instance, AI-powered writing tools have the potential to enhance the writing process by providing students with instant feedback and suggestions for improvement (Alharbi, 2023). On the other hand, some researchers caution against relying too heavily on AI in the writing process, arguing that overreliance on the tool may stifle could limit the originality and diversity of creative works, potentially resulting in a homogenization of styles and themes (Gurkaynak, Yilmaz, & Haksever, 2016; Pope, 2005). As such, it is essential to consider the role of AI in the writing process and weigh the benefits and drawbacks of these technologies in shaping the future of creative writing and poetry.

Contrarily, artificial intelligence (AI) systems are created with the purpose of making informed decisions by relying upon the information and data they have been trained on (Zhang, Liao, & Bellamy, 2020). And while

107 these systems can be programmed to consider multiple variables and weigh different options, they ultimately make
108 a decision based on available information (Mittelstadt, Russell, & Wachter, 2019). In other words, while AI can
109 certainly offer valuable support in the writing process, it cannot fully replicate the intricate interplay of emotions,
110 experiences, and ideas that make up the creative process. The unique qualities of human thought, such as the
111 ability to manage cognitive dissonance, play a crucial role in creating original and impactful works of literature
112 and art. AI's lack of the ability to hold two opposing views as accurate simultaneously and handle uncertainty and
113 ambiguity distinguishes it from human thought processes (Jarrahi, 2018). As Julia Cameron noted on creativity
114 and artists: "Artists are people who have learned to live with doubt and do the work anyway" (Hager, 2022).
115 Therefore, the artistic process is one of ambiguity and uncertainty. Despite this, certain researchers are engaged
116 in developing AI systems capable of deliberating amidst uncertainty and grappling with discrepant information or
117 evidence, relying on probabilistic models (Yang et al., 2018). Nevertheless, the literature supports the argument
118 that while AI may be able to imitate human thought processes with artificial neural networks, the experience
119 of being human will remain firmly in our domain (Aggarwal, 2018). As the progress of AI continues, it will
120 become increasingly important to recognize the limitations of these technologies in effectively emulating human
121 creativity. In doing so, we can begin to appreciate the distinctive attributes that distinguish human creativity
122 from that of machines.

123 The ongoing debate regarding the creative potential of humans and AI has recently shifted its focus to the
124 differences between human and robot creativity (Popenici & Kerr, 2017). As a result, the current study aims to
125 evaluate the capabilities of ChatGPT-3 in creating poetry and examine its potential for communicating creatively.
126 The research approach utilizes literary criticism and methodologies to perform poetry analyses and investigate the
127 processes and limitations of AI in replicating poetic devices such as word choice, rhythm, and stanzas. Through
128 the use of various literary personas, the research aims to elucidate the creative mechanisms employed by such
129 tools. Researchers began by having the NLP chatbot act as a poet and write on the sublime and the experience
130 of nature. Next, the tool was asked to personify and use the voice of the English Romantic poet John Keats
131 (1795-1891) when generating a poem about Autumn. An analysis of these generated poems, compared to those
132 written by Keats, found that while AI had little difficulty quickly imitating the language used by the poet, the
133 underlying emotions engendered were lost, reinforcing the differences in creativity for human authors and robots.

134 2 II.

135 3 Literature Review a) AI Use in Linguistics

136 The applications of natural language processing (NLP) software have transcended beyond chatbots and virtual
137 assistants. Artificial Intelligence (AI) has been utilized for a broad spectrum of purposes in the fields of linguistics
138 and English education, encompassing language acquisition, corpus linguistics, reading, vocabulary, pronunciation,
139 error analysis, assessment of reading support tools, evaluation of spoken English, and development of computer-
140 assisted language learning (CALL) systems (Blake, 2011; Hall, Smith, & Wicaksono, 2017). Moreover, NLP has
141 been leveraged in teaching. One reason for approaching the human-AI collaboration model with healthy skepticism
142 is that each uses different types of creativity. For instance, according to Harold Bloom in his book *Genius: A
143 Mosaic of One Hundred Exemplary Creative Minds* (2002), human creativity is not a fixed trait or characteristic
144 but a dynamic and evolving process that can be seen throughout an individual's life and work. The argument
145 supports the argument that creativity is a combination of innate talent and hard work, expressed through the
146 ability to create something new and original (Kieran, 2014). However, the creative process is also seen as a
147 byproduct of a uniquely human quality, the ability to manage cognitive dissonance (Kenworthy et al., 2011). The
148 process of writing and creating art involves the expression of complex and often contradictory ideas and emotions,
149 and the ability to navigate these conflicting elements gives rise to originality and innovation in creative works.
150 and learning for diverse intents. For instance, Ibrahim and Ahmad (2010) applied NLP in combination with
151 domain ontology methods to produce Unified Modeling Language (UML) diagrams. By utilizing a prototype
152 instrument known as Requirements Analysis and Class Diagram Extraction (RACE), static structural diagrams
153 were extracted from informal NLP. This exclusive tool aided analysts in formulating a method for producing class
154 diagrams with greater efficiency. Despite being in the beta testing phase, such diagrams serve as a testament to
155 the potential of NLP across various fields of study.

156 Further instances in the domain of tutoring include The Writing Pal, which has been delineated by McNamara,
157 Crossley, and Roscoe (2013). According to these researchers, The Writing Pal is an intelligent tutoring system
158 (ITS) that can provide secondary and postsecondary students with techniques to enhance the quality of their
159 writing, particularly in the context of essay writing. Notably, the most significant utilization of AI is witnessed
160 in the NLP algorithms developed to appraise the caliber of essays and provide feedback to writers. Given that
161 writing is a subjective and personalized activity, these algorithms had to be fashioned to consider a wide-ranging
162 array of rhetorical, contextual, and linguistic characteristics.

163 In a similar vein to Writing Pal, the Automated Writing Evaluation (AWE) system was established to aid in
164 assessing and enhancing writing amongst students in secondary education. Snow et al. (2015) extended their
165 research to investigate whether high-scoring writers in high school displayed flexibility in their writing, and how
166 this trait could be measured. The investigation tested this hypothesis by comparing the use of linguistic features
167 such as cohesion and narrativity among students. Subsequently, entropy analyses were employed in tandem with

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168 natural language processing (NLP) to assess the level of rigidity or flexibility exhibited by students in their use of
169 cohesive and narrative linguistic features over time. The study subsequently compared these findings to variances
170 in vocabulary knowledge, comprehension proficiency, prior experience, individual differences, and essay quality.
171 These outcomes served as a foundational reference for researchers seeking to quantify students' capacity to
172 manifest flexibility in their writing across specific time frames.

173 Another instance of employing AI and NLP in writing improvement was detailed in a study by Zhang et
174 al. (2019), which elucidated the eRevise tool. This webbased environment was intended to evaluate writing
175 and offer guidance with revisions through NLP processing. The tool's features encompassed the generation of a
176 rubric-based, essay-scoring mechanism that triggered timely and formative feedback for students via a messaging
177 system in response-to-text writing. The tool's objective was to help students grasp the assignment criteria for
178 utilizing text-based evidence in writing and subsequently enable them to revise their drafts with more excellent
179 proficiency. Meanwhile, the increased access to formative feedback generated encouraging results by reducing
180 the demand for teachers to guide students in effectively integrating textual evidence. Initial classroom studies
181 indicated that tools like eRevise could aid writing students in improving their essays through early interventions
182 in the writing process via formative feedback, ultimately leading to greater engagement in the revision process.

183 In the context of foreign language teaching and learning, corpora have demonstrated a particular utility. These
184 collections of language data, comprising texts or text fragments assembled to serve as a sample of a language or
185 language variety, began to play an increasingly significant role in shaping the structure of language curricula at
186 the turn of the millennium (Coniam, 2004). Hunston (2002) expounded on the various ways in which corpora
187 have been employed in foreign language studies, encompassing stylistics, grammar, translation studies, and the
188 development of dictionaries. Johns (1997) had already observed that one of the most prevalent uses of corpora
189 in the classroom was data-driven approaches to teaching and learning. Moreover, the applications of corpora are
190 not confined to the humanities, as Noguchi (2002) conveyed in a study outlining how graduate students in science
191 and engineering improved their writing skills by analyzing discrete, sample-sized corpora from their specific fields
192 of interest.

193 To optimize the utility of a corpus, a software tool is necessary to process and display the results of specific
194 searches. Numerous concordances and corpus analysis programs have been developed, although some of the
195 most widely utilized ones are WordSmith Tools and MonoConc Pro. Very few of these types of tools have been
196 designed and developed specifically for classroom settings. As a result, researchers tend to design the features
197 with a focus on their own needs, and often include functions that are seldom utilized by learners in a classroom
198 environment. Compounding this

199 The investigation conducted to evaluate the effectiveness of the tool contemplated the potential of devising
200 computational indices to enhance the precision of predicting human assessment of the same essays. Earlier studies
201 had revealed that cohesion indices did not predict human evaluation of essay quality; however, word frequency, the
202 complexity of syntax, and linguistic index did. In order to address the limitations in prior research, McNamara et
203 al. (2013) conducted a study that utilized an expanded range of indices covering syntactic, reading, rhetorical,
204 cohesion, and lexical factors, and also incorporated a larger dataset. The study's specific model analyzed three
205 specific indices comprising word frequency, syntactic complexity, and lexical diversity. One issue is the fact that the
206 user interface design of such programs is excessively complex and does not adhere to the conventions of current
207 configurations and layouts of windows-based applications. Subsequent to that, attempts have been undertaken
208 to develop tools that are tailored to classroom application. In this regard, Anthony (2004) investigated AntConc,
209 which is a corpus analysis toolkit created specifically for classroom use.

210 Such freeware applications are continually improving and are employed in secondary and postsecondary
211 education, where budgets are often more limited than in industry setting and are now compatible with both
212 Linux and Windows-based systems. Concordancers are often utilized for purposes beyond pure research due
213 to their ability to promote vocabulary acquisition and improve grammar, writing styles, and collocations, thus
214 facilitating second or foreign language learning (Sun and Wang, 2003). Simultaneously, other applications have
215 been developed to aid in ESL instruction. For example, Chang and Chang (2004) presented their findings on
216 the three-year Project Candle, which utilized various corpora and NLP to create an online learning environment
217 for non-native English speakers in Taiwan. Using the English-Chinese parallel corpus Sinorama, students were
218 presented with materials to enhance their reading and writing skills. Sinorama was coupled with TotalRecall,
219 an online bilingual concordancer, and the reference tool TANGO. Online lessons consisted of reading, verb-noun
220 collocations, and vocabulary.

221 Nevertheless, these initial reports did not evaluate the effectiveness of NLP in teaching English to non-native
222 speakers. Finally, Crossley, Allen, Kyle, and McNamara (2014) discussed the Simple Natural Language Processing
223 (SiNLP) tool to augment discourse processing research. Results of the study demonstrated that the tool performs
224 as well as more robust text-analysis tools like Coh-Metrix on discourse processing tasks. Nonetheless, the
225 impact of quantum computing in the classroom has been particularly significant in modern languages. As reported
226 by ?alu?i? (2021), many practical applications of AI in language education are currently being experimented with,
227 including computer-aided pronunciation training to improve spoken language proficiency and intelligent language
228 tutoring systems that adapt to individual students' progress. Despite these advances, ?alu?i? (2021) cautions
229 that AI tools should not be regarded as a substitute for teachers but instead designed to assist teachers in their
230 role. Other surveys also support the notion that a human instructor will still be necessary to provide guidance

231 and step in when needed, even as students train with software (De Smedt, 2002; Ceolin, Noordegraaf, Aroyo, &
232 van Son, 2016; Xu & Margevica-Grinberga, 2021; Mukherjee, 2020). While the majority of these tools have been
233 developed for English language instruction, there is an emerging trend toward developing similar tools for other
234 languages ?? In the realm of literature and history courses, the direct use of AI is not yet a common practice.
235 Nonetheless, the technology proves useful to students in the areas of searching archives or when they engage
236 in "big data"-focused digital humanities courses. A trend observed over the past several decades, humanities
237 researchers have compiled substantial textual corpora, and to transform this data into "smart data," ML is
238 often employed (Zeng, 2017). However, because the domains of humanities research are highly specialized, the
239 development of ML algorithms necessitates specialized training data or modifications for effective application
240 (Suissa et al., 2022). Nevertheless, the benefits of integrating such technology are considerable, as highlighted by
241 Gefen et al. (2021), who noted that ML applied to these corpora opens the door for textual analyses on a grand
242 scale. The ability of artificial intelligence to aid scholars in attaining more conclusive and measurable solutions to
243 literary, linguistic, and historical queries has greatly expanded. In digital humanities courses, students frequently
244 perform these analyses, without realizing that the preparation of the data they are working with involves the
245 utilization of AI (Qian, Xing, & Shi, 2021).

246 4 III. Humanities and Language Arts

247 The integration of computer technology in the work of poets, novelists, and mixed-media writers has evolved in
248 parallel with the development of AI, and discussions of the implications of these tools for the field continue to
249 abound. Terrence J. Sejnowski's book, *The Deep Learning Revolution* (2018), highlights the superior performance
250 of medical diagnoses made through partnerships between physicians and AI technologies over-diagnoses made by
251 human doctors or AIs alone. However, Sejnowski (2018) also notes the story of AlphaGo and AlphaGo Zero, which
252 defeated the world's top human Go players. Within the realm of creative writing, there are writers and writing
253 communities that collaborate with databases and archives to enhance the authorship process, while others, such
254 as the coderand-poet Allison Parrish are developing bots that generate poems with increasing independence from
255 traditional human writing methods.

256 Since the 1990s, alongside the development of hypertext fiction, there has been an effort to create archives and
257 databases for accessing these texts. However, given the constant changes in computer hardware and languages,
258 this task is not without challenges. The Electronic Literature Organization (ELO) (2016) and the ELMCIP
259 Knowledge Base see machine intelligence as a blend of human creativity and databases that enable readers to
260 access both the words and ideas created by authors and the technological environment for specific renderings
261 of those words. Similarly, Leonardo Flores (2017) has pioneered a blend of blog and archive in his I ? E-
262 Poetry website, which he argues is crucial for independent machine-written poetry to be perceived as poetry and
263 remembered.

264 Some creative writers use standard AI techniques to generate poetry-writing bots. Nick Montfort (2012)
265 advocates for a "computational poetics," in which the line between code and text is blurred. The Flarf movement
266 in experimental poetry, on the other hand, used Google searches to randomly generate seed language for poetry,
267 an early form of botgenerated literature. They also used message boards and forums to archive the poetry
268 and blogs to circulate the conversation. Although it is now fifteen-years old, Flarf was an early example of
269 what much AI in creative writing is likely to be, involving human stochastic processes augmented by search and
270 other algorithmic procedures. Allison Parrish (2016), on the other hand, employs mainstream AI techniques
271 such as word2vec to compose poetry. She uses "gists" on Github to provide readers from the humanities with
272 the necessary background to venture out into computer science topics. Parrish publishes poetry in print and
273 online formats and presents at both computer technology venues such as Strange Loop in St. Louis and more
274 conventional academic conferences.

275 5 a) AI and Creative Writing

276 In creative writing, numerous natural language processing (NLP) software tools have been developed, and studies
277 have been conducted on their effectiveness in teaching grammar and enhancing creativity among postsecondary
278 students. A case in point is the research carried out by Clark, Ross, Tan, Ji, and Smith (2018) to explore the
279 potential of machine-in-the-loop creative writing, which involved two case studies that employed prototypes for
280 generating slogans and short stories. While some participants wrote with the assistance of the AI tool, others
281 did not. The study's results indicated that the tool was not only engaging but also helpful, and many students
282 expressed their intention to continue using it in the future. Notably, the team discovered that the tool did not
283 necessarily produce better examples from student submissions; however, revising the system design used could
284 contribute to more effective support for creative writing in the future.

285 There exists a growing body of scholarship on the relationship between machine learning (ML) and creativity.
286 In their 2021 study, Franceschelli and Musolesi reviewed the history of using ML techniques and computational
287 creativity theories and discussed how these might be employed for automatic writing evaluation methods. ??fforts
288 In a study by Roemmele and Gordon (2018), the researchers explored the efficacy of Creative Help in improving
289 creativity in writing. The tool was designed to assist writers in developing creative writing by suggesting new
290 sentences in a story while allowing writers to retain control over the final edits and the generated suggestions.

6 IV. ROBOT POETRY: A POETRY ANALYSIS OF AI CREATIVITY AND IMPERSONATION

291 The recurrent neural network language model was employed by the authors in generating tips for writers, with
292 varying degrees of randomness to assess the role of unpredictability in creativity. The study found that the degree
293 of randomness in the suggestions presented to authors indeed affected their interactions with the tool.

294 In creative writing, AI has been examined for its possibility to support collaboration in addition to individual
295 student help. Kantosalo and Riihiahio (2019) explored the potential of "human-computer co-creativity" in
296 primary school education and sought to identify quantitative metrics to analyze this phenomenon. In their
297 study, participants wrote poems using three different cocreative writing processes: collaborating with AI
298 (humancomputer), another student (human-human), and another student and AI (human-human-computer).
299 The AI application used in the study was Poetry Machine. After each experience and at the end of the processes,
300 participants completed questionnaires that evaluated their experience based on metrics such as "immediate
301 fun," "long-term enjoyment," "creativity, self-expression, outcome satisfaction," "ease of starting and finishing
302 writing," "quality of ideas and support from others," and "ownership." Results showed that respondents had
303 varying degrees of disagreement regarding long-term enjoyment, quality of ideas, support, fun, and ownership.
304 Participants demonstrated the highest levels of long-term enjoyment when collaborating with both another human
305 and the AI application. However, the AI was judged weakest in terms of support and idea quality.

306 The studies reviewed indicate that AI, machine learning, and NLP have the potential to enhance the teaching
307 of creative writing in postsecondary education. However, despite their promise, these tools have not been
308 widely adopted in the creative writing process. One reason is that many faculty in the field lack training in
309 coding, programming, and AI. Additionally, tools to aid in the integration of AI into the classroom may not
310 be readily available or widely known among instructors. To address this issue, William Mattingly developed
311 Python for the Digital Humanities (<https://pythonhumanities.com/>) in 2015, which grew out of his dissertation
312 research on Carolingian exegesis and networks of eighth-and ninth-century scriptural commentators in Europe.
313 Mattingly used the scripting language Python for his research and created resources to help others from humanities
314 backgrounds without programming experience to learn how to code.

315 6 IV. Robot Poetry: A Poetry Analysis of AI Creativity and 316 Impersonation

317 The potential utilization of AI tools to create "creative" works, such as poetry, has been well-studied (Boden,
318 2004). This raises important questions about the limitations of simulating human emotion and experience and
319 what distinguishes us from machines. While AI is capable of learning knowledge and even responding differently to
320 different tones of voice (Parisi, 2019), the question of whether AI can truly create remains somewhat controversial.
321 As Boden (2004) notes, there is a difference in computer and human creativity because of the differing ability
322 to come up with new ideas or creations that are surprising, valuable, and new. One significant difference in how
323 each type of creativity differs is the nature of creativity itself. Boden writes, "Creative ideas are unpredictable.
324 Sometimes they even seem to be impossible -and yet they happen." (2004, p.1). The psychological processes at
325 work during organic human creativity are seemingly chaotic and random (Partridge & Rowe, 2002). Furthermore,
326 while AI tools like Alexa and Siri display certain forms of emotion and can respond to different tones of voice,
327 they lack the hypertextual impulse that is present in human writing, an impulse that represents the struggles,
328 emotions, and unique experiences that make us human. This is particularly evident when examining examples of
329 poetry. For instance, Romantic poet John Keats (1795-1819), who penned such beloved poems as *Ode*
330 *to a Nightingale* (1819), *Ode on a Grecian Urn* (1819), and *To Autumn* (1820), is one such poetic example that
331 highlights the difficulties of simulating human emotions and experiences. While image-based and text-based AI
332 generators can produce work by recombining existing images and texts in new ways, the spontaneous inspiration
333 and capricious creativity that characterizes human artistic expression cannot be replicated (Peters, 2017). Unlike
334 mercurial artists like Michelangelo Buonarroti (1475-1564), who worked by seeing a struggling figure fighting
335 to emerge from marble, AI does not experience quick bursts of creativity followed by lulls in productivity and
336 cognition.

337 The idea is borne out in recent neuroscience research and provides insights into how the mind works. The
338 human brain operates within a dynamic interplay of stability and chaos as it processes and interprets information
339 from the external world. As individuals engage in various activities, such as reading or conversing with others, the
340 brain transitions from one semi-stable state to another. However, before reaching stability, the brain undergoes
341 a chaotic process characterized by seemingly random and unpredictable fluctuations (Hamzelou, 2023). Instead,
342 AI is primarily pinioned to pull from the data set it has been trained on when prompted and in a regulated,
343 consistent fashion (Boden, 2004). Therefore, while AI generators may be able to imitate the styles of literary
344 figures and their persona and better synthesize information from previous authors (Floridi, 2019), these systems
345 cannot replicate the emotional, empathetic, and aesthetic qualities that are uniquely human (Boden, 2004).

346 But even with that limitation, let us return to the paradigm shift represented by the latest generative AI
347 and potential for personification. Generative pre-trained transformers, such as ChatGPT-3, have been trained to
348 adopt the writing styles and word choices of different professions, including statisticians, comedians, academics,
349 and poets. Adopting writing style, vocabulary, and even rhythmic devices is remarkably versatile and opens
350 new avenues for research and exploration into the imitative capabilities of these models. For instance, you
351 can have ChatGPT-3 act as a statistician using the following prompt: I want to act as a Statistician. I will

352 provide you with details related to statistics. You should have knowledge of statistical terminology, statistical
353 distributions, confidence interval, probability, hypothesis testing and statistical charts. My first request is "I need
354 help calculating how many million banknotes are in active use in the world."

355 Along with a standup comedian, academic, scientist, or whatever else one may prefer, the same GPT can also
356 impersonate a poet. One can prompt the chatbot to act as a generic or more specific historical persona. For
357 instance, a generic poet can be created with the following prompt:

358 As a poet, your task is to create verses that are capable of eliciting emotions and moving people's spirits. Your
359 compositions should be meaningful and aesthetically pleasing, regardless of the topic or theme you choose. You
360 may also opt to craft concise yet impactful lines that resonate with readers. For your first request, please write
361 a poem that expresses the sentiment of love beautifully and poignantly.

362 Next, one can begin investigating how AI can imitate poetry and the expression of human emotions. For
363 instance, without specifying a poet, one can use the prompt:

364 Act as a poet. Compose a poem that centers on the concept of the sublime and the sensations that arise
365 from being in nature. Your writing should be characterized by striking and expressive language that paints vivid
366 and evocative images of the natural world. You are encouraged to incorporate literary devices such as similes,
367 metaphors, and personification to add layers of meaning and intrigue to your writing. Ensure that your words
368 inspire the imagination and capture the essence of the experience of being immersed in nature.

369 While poems take much longer than other queries, after a few minutes the following was generated:

370 As we are using the poet John Keats as a persona to imitate in our paper, it is helpful to remember the aspects
371 of Keats' life that no AI at this point could replicate or understand. Since Rossetti and Anderson's life of the
372 poet was published in 1887, Keats is remembered as dying young of tuberculosis at the age of 26 and had a
373 lifetime of dancing with death (Rossetti & Anderson, 1887). When he was but a young boy, his father, who
374 ran a livery stable, went off to work one day and never came home; he had died due to a fall from a horse.
375 Young John had a father at 8:00am and no father at 8:00pm. The boy's mother, broken with grief, left the
376 family, again making the child John experience a wrenching and sudden loss (Keats, 1848). The loss, though,
377 was not permanent. A few years after her departure, John's mother returned, but she had returned to die. Dead,
378 alive, alive, dead—those experiences must surely have churned in young John's psyche (Bate, 2009). Even the
379 poet's favorite brother contracted tuberculosis. He nursed the brother until the brother died, knowing full well
380 he himself might contract the disease. And, in fact, he did. Coughing one day into a handkerchief, and seeing
381 the spot of blood on it, John said, "I must die." He knew he had only a few years to live, if that (Keats & Cook,
382 1990). Keats fell in love with a woman named Fanny Brawne, who was in love with him, as well. He never
383 married her for several reasons: his inheritance from his father was tied up in the courts (there was money but no
384 money); he did not want to leave his young wife a young widow; and he did not want her to contract tuberculosis
385 (Roe, 2012). In essence, he did not marry her because he loved her. Keats' life and poetry show us an example
386 of how love and loss, death and life, dance together simultaneously harmoniously and dissonantly.

387 Keat's legacy is so intertwined with death that his poetry is the default when writing a poem on the subject in
388 ChatGPT-3. When prompted to write a poem in the voice of a young person who was aware of their impending
389 death, the poem below was generated instantly using the prompt "Write a poem from the point of a view of a
390 young person who knows they're about to die."

391 I am young, and yet my time is done, My journey here, it ends so soon, A life cut short, before it's begun, A
392 fate that's hard to accept, so dreary and swoon.

393 I see the world, with eyes so bright, A future full of hope and dreams, But now that future, it takes flight,
394 And all that's left are silent screams.

395 I thought I had forever, But forever's not mine to have, I'll leave behind a life, so clever, But also, one so full
396 of half-lived moments, so sad. As we see from the example above, AI can certainly generate correct grammar,
397 measured meter, and poetic technique. However, the work appears to be composed of superficial and trivial
398 language, reminiscent of the sort that one might encounter in a common greeting card. Despite nature being
399 highlighted, there is no interaction with nature, no reflection, and no sense of tension. Therefore, emotion may
400 be written about, but it cannot be communicated as AI did not, in fact, experience emotion or a heightened
401 sense of the juxtaposition of life and death.

402 I'll leave behind the ones I love, The laughter and the tears we shared, But now, above, the heavens above,
403 I'll be an angel, with nothing to fear. So as I close my eyes for the last time, I'll hold on to my memories, they
404 will forever shine.

405 Because Keats was not included in the prompt, there is no use of Keatsian words or images, although allusions
406 to A.E. Housman's *To an Athlete Dying Young* can be inferred. As well, the last lines of the poem make no sense
407 at all, as a dead person cannot hold onto memories. Interestingly, given the pre-trained model, along with the
408 poem, an automated response was generated urging the prompter to seek help immediately if they had thoughts
409 of death or suicide. The disclaimer urges the user: "It's important to note that death is a sensitive topic, and it is
410 not appropriate to trivialize or make light of it in any way. If you or someone you know is struggling with thoughts
411 of death or suicide, please seek help immediately." Given that the AI can embody any persona, researchers then
412 asked it to act as a literary critic. With the prompt "Act as a literary critic and perform a poetry analysis of the
413 preceding poem," the following was generated.

414 This poem is a celebration of the beauty and power of nature. The speaker marvels at the vastness and majesty

8 SEASON OF MISTS AND MELLOW FRUITFULNESS, CLOSE BOSOM-FRIEND OF THE MATURING SUN; CONSPIRING WITH HIM HOW TO LOAD AND BLESS WITH FRUIT THE VINES THAT ROUND THE THATCH-EVES RUN; TO BEND WITH APPLES THE MOSS'D

COTTAGE-TREES, AND FILL ALL FRUIT WITH RIPENESS TO THE CORE;

415 speaker highlights several aspects of nature, including the mountains, oceans, trees, and sun, which they describe
416 in vivid and lyrical language.

418 The poem also explores the concept of the sublime, which refers to experiences that evoke feelings of awe and
419 wonder in the face of something that is vast, powerful, or beautiful. The speaker asserts that nature is a source
420 of the sublime and that its beauty leaves the speaker in a state of arrest.

421 Overall, this poem is a tribute to the power and beauty of nature and serves as a reminder of its unique and
422 enduring impact on our lives.

423 While AI tools can act as and imitate a specific set of skills or profession, they can also embody historical
424 figures. For instance, if we ask AI to act as a poet and:

425 Compose a poetic piece in the manner of John Keats that captures the essence of the autumn season, employing
426 descriptive and vivid language to produce a rich and evocative imagery. Incorporate literary devices such as
427 similes, metaphors, and personification to intensify the literary quality of the work. Your writing should be
428 imaginative, immersive, and thoughtprovoking.

429 The following will be generated and reveal how such pre-trained transformers utilize source material. As the
430 AI poet begins, Autumn, with thy mellow breath, Thou bringest all the bloom of death, The fading of the green,
431 the birth Of fiery hues, that mark thy worth.

432 The trees, they shed their summer dress, And in their nakedness, confess The fleetingness of life, and how All
433 things must die, but not just now.

434 The fields, they lay in golden sheen, A final offering, all too keen, To be stripped bare, and left to sleep, But
435 not before, one last grand leap.

436 The wind, it whispers through the air, A mournful dirge, without a care, For those who must depart, and
437 leave This world, to grieve, and to believe. But autumn, thou art not all gloom, For in thy death, there is new
438 bloom, A promise, that though all must die, The cycle of life, doth never dry.

7 So let us bask, in thy warm glow, And in thy beauty, let our hearts overflow, For autumn, thou art not the end, But a new beginning, my dear friend.

442 When we compare the poem above generated by AI to the one below by Keats, we see it is lacking in the wistfulness
443 and wonder supplied by the poet's own words. Keats' To Autumn(1820) begins with a stanza celebrating fullness
444 and culmination; all fruit is ripe and ready, and even the cells of the honeybees are overbrimming. The sense is
445 one of plenty, but the plenty foretells the bareness that will come.

8 Season of mists and mellow fruitfulness, Close bosom-friend of the maturing sun; Conspiring with him how to load and bless With fruit the vines that round the thatch-eves run; To bend with apples the moss'd cottage-trees, And fill all fruit with ripeness to the core;

451 To swell the gourd, and plump the hazel shells With a sweet kernel; to set budding more, And still more, later
452 flowers for the bees, Until they think warm days will never cease, For summer has o'er-brimm'd their clammy
453 cells.

454 The second stanza focuses on sleep and on waiting and watching. The use of words such as "drow'd," "poppies,"
455 and "hook" are references to to the coming of death; fullness brings imminent death.

456 Who hath not seen thee oft amid thy store? Sometimes whoever seeks abroad may find Thee sitting careless
457 on a granary floor, Thy hair soft-lifted by the winnowing wind; Or on a half-reap'd furrow sound asleep, Drows'd
458 with the fume of poppies, while thy hook Spares the next swath and all its twined flowers: And sometimes like
459 a gleaner thou dost keep Steady thy laden head across a brook; Or by a cyder-press, with patient look, Thou
460 watchest the last oozings hours by hours.

461 The final stanza focuses on the integration of life and death. We see the juxtaposition of "barred clouds,"
462 "soft-dying," and "stubble plains" with the oxymoronic "full-grown lambs," the singing of the hedge crickets, and
463 the twittering of the gathering sparrows.

464 Where are the songs of spring? Ay, Where are they? Think not of them, thou hast thy music too,-While
465 barred clouds bloom the soft-dying day, And touch the stubble-plains with rosy hue; Then in a wailful choir the
466 small gnats mourn Among the river shallows, borne aloft Or sinking as the light wind lives or dies; And full-grown
467 lambs loud bleat from hilly bourn; Hedge-crickets sing; and now with treble soft The red-breast whistles from a
468 garden-croft; And gathering swallows twitter in the skies.

469 Ultimately, what Keats provides that AI cannot replicate is a tension between life and death, a sense that
470 the two are in essence the same. AI is designed to provide answers according to algorithms whereas the unique
471 human sense of tense balance gives us uniquely human poetry. We see here in practice Keats' notion of negative

472 capability. In a letter to his brothers George and Tom in 1817, four years before his own death at the age of 25,
473 Keats wrote there is a certain quality which forms "a Man of Achievement especially in Literature"; this quality
474 is one, again in Keats' words, of "Negative Capability, that is, when man is capable of being in uncertainties,
475 Mysteries, doubts, without any irritable reaching after fact & reason" (Keats, 1848). The palpable and irresolvable
476 tension in poetry such as Keats' is not formed by the use of skillful technique, banks of words and images, or
477 imitation, but by one's capacity to embrace negative capability.

478 Furthermore, while the AI tool is adept at performing tasks it has been trained on and pulling from a data
479 set, there are limitations to how well it is able to imitate human emotions. For instance, if we were now to create
480 a prompt asking AI to create a poem using two opposing human emotions, the results are elucidating. Using the
481 following prompt takes into account the persona (Keats), the task and output:

482 Craft a poetic composition in the style of John Keats that conveys both the emotions of hope and despair
483 in relation to the autumn season, utilizing a skillful juxtaposition of these contrasting sentiments. Employ
484 descriptive and vivid language to evoke a sense of imagery and atmosphere, and incorporate literary devices such
485 as similes, metaphors, and personification to heighten the poetic quality of the piece. Your writing should be
486 both imaginative and evocative, inviting the reader to engage with the emotions and imagery presented.

487 The following poem is generated that was meant to betray the melancholy and sweetness juxtaposed in the
488 style of the Romantic poet.

489 Autumn, the season of decay, A time for the leaves to fall and fray. But in this dying, there's beauty found,
490 A splendor, that cannot be bound.

491 The trees, they shed their summer dress, And stand naked, in quiet distress. But as the winds of change do
492 blow, Their sorrows, they begin to show.

493 The colors of the leaves, they change, From green to gold, to red and orange. A reminder, that life is fleeting,
494 And all things, must come to an ending.

495 9 And yet, amidst the dying hues,

496 There's a glimmer of hope, that renews. For in death, there is also birth, And the cycle of life, goes on, on earth.
497 So let us not despair, my friends, For in autumn, beauty never ends. Let us embrace the change of seasons, And
498 find hope, in life's eternal reasons.

499 Humans are aware of their mortality. This awareness allows morality. The Greco-Roman gods, in contrast,
500 had no boundaries of life or strength, no end to their life, no afterlife. While animals seem aware of death and
501 its place for them, they do not desire, it seems, to live on in an afterlife. They have no concept of immortality,
502 and no fear of what happens once the mortal coil is shuffled off. There is a tension in human thought and art,
503 an almost tentative reaching after the numinous, a sense of being and becoming, of nonbeing and becoming, a
504 sense of anxiety about coming close to a question, failing to understand it, coming close to it again, backing off
505 of it again.

506 The tides of human understanding come in, go out, come in, go out, tossing up detritus on the shore of
507 the rational. It is the rhythm of the tides, their ever-lasting presence, that seems to manifest itself in the
508 hypertextuality of poetry, poetry that cannot, without the experience of humanity, be replicated.

509 Humans are creatures of dialectics, of opposing impulses, of chaos and confusion even as we long for certainty
510 and order. We long to be immortal and yet we assiduously destroy ourselves, each other, and the planet. We
511 seem to be the only creatures who have selfdestructive tendencies, and these tendencies addiction, compulsion,
512 lack of self-care seem to be linked to a yearning for control. Ironically, it is only when we let go of control that
513 we can experience the powerlessness that is actually a sense of the sublime. We celebrate both the fear and the
514 awe. To experience letting go of control, ironically, we must experience first a sense of control.

515 V.

516 10 CONCLUSION

517 AI models such as ChatGPT-3 have demonstrated an impressive ability to mimic the writing styles and word
518 choices of various professions, the question remains as to whether true art can be generated by machines. As
519 Thomas Carlyle noted in *Sartor Resartus*, the lack of awe and wonder in the world is a significant concern: "Man's
520 whole life and environment have been laid open and elucidated; scarcely a fragment or fibre of his Soul, Body, and
521 Possessions, but has been probed, dissected, distilled, desiccated, and scientifically decomposed" (*Sartor Resartus*
522 4). To further comprehend the distinct human emotions and drive to create, it may be beneficial to reframe the
523 inquiries about the essence of humanity, existence, and creative abilities, and give prominence to the notion of
524 fear. By doing so, we can investigate the uniquely human anxiety and the endeavor to express and communicate
525 the "feeling" of being human as a phenomenology of experience.

526 Further research is needed to explore the possibilities and limitations of AI in the creation of poetry and its
527 implications for our understanding of the nature of poetry and human emotions. As such, the advent and broad
528 adoption of AI in a number of fields will result in a significant shift in the job market, with AI moving beyond
529 low-skilled tasks to become a vital tool in the creative arts. This has raised questions about what it means to
530 be human, particularly as creativity, which was once thought to be a uniquely human attribute, is now being
531 challenged by machine-generated art. However, evidence suggests that AI is enhancing creative jobs rather than

10 CONCLUSION

532 taking them over. As creative professionals begin to work with AI, traditionalists are gradually being replaced.
533 As the role of AI in the creative arts continues to evolve and disrupt traditional ways of thinking and working,
534 it remains a subject of growing interest. With continued research and exploration, the full potential of AI in the
creative arts will continue to be realized.

2022; Sharples & Pérez, 2022;
2023). Generative AI technology has already found applications in marketing, advertising, development, legal contracts, video gaming, customer

Figure 1:

Figure 2:

Year 2023
8
Volume Nature's canvas, vast and grand, A masterpiece, forever in command.
XXIII
Issue I
Version I
() D Sublime, in its raw and rugged form, A force that can both calm and storm.
Global The mountains reach for the sky, Their peaks shrouded in mist, a
Journal of natural high. The oceans rage, with power untold, A symphony of
Computer waves, both fierce and bold. The trees, they sway in the breeze, A
Science dance of leaves, with such ease. Their branches, like outstretched arms,
and Tech- Embrace the earth, in nature's charm. The sun, it rises, in brilliant
nology hues, A fiery orb, that nature imbues. It sets, in a blaze of orange and
red, Leaving behind, a sky, peacefully spread. [Stanzas continue]
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Figure 3:

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