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RESEARCH INTERESTS

# I. Use of polysyllabic for informing authenticity and information exchange quality.

Assessing polysyllabics and logodaedaly could support the testing and development of new authenticity scoring mechanisms. The intention isn't to discern plagiarism but create i) a discourse score and ii) a programmatic means to improve information exchange quality by adding polysyllabicisms and periphrastics.

- Encourage students to continuously inventory their work for authenticity scoring substrate, supporting any document originality disputes.
- Inventory diverse polysyllabic words into syllable trees.
- Transposition of syllable trees using LDA et al.
- Form matrix complexity index.
- Validate score mechanism and validate methods for accuracy and effectiveness.
- Release a library on <a href="mailto:pypi.org">pypi.org</a> to expand the user community.
- Note: pending OpenAI approval for scholastic research privileges.

#### II. Artificial intelligence use of polysyllabics for human conversation captivation.

On the horizon is configuring conversational AI to manipulate AI to human conversation. Like a magician's legerdemain, AI's use of polysyllabics and complex jargon could obfuscate outcomes. This work will assess

- A programmatic means and scoring of a human's lexicon level.
- Develop appropriate statistical measures of fairness.
  - For example, a lecture described a specific system's "propensity." Left two students bewildered. Thankfully, they asked for clarification but couldn't AI conversational agents cause similar bewilderment and eventually run amok, presenting new forms of elder abuse and similar?

### III. The use of long-format podcasting for harvesting computer science literacy content.

**Goal:** Create a data pipeline based on quality podcasts with audio transcription automation summarization with ChatGPT into weekly lecture content for discussion and subsequent persuasive argument debating.

**Background:** national policy focused on requiring computer science as a high-school graduate requirement  $[\underline{1}]$ . A complimentary argument is university curriculum of dynamic podcast ingestion to build student literacy, consider

- In the 1960s and 1970s, the space race fueled learner content and intrigue.
- Today, multimedia learning modalities expand exponentially. Machine learning experts like Lex Fridman (<a href="https://lexfridman.com/">https://lexfridman.com/</a>) provide deep and wide content to broaden young learners, knowledge framework and look-ahead capabilities.
- Outcome: a harvested compendium of freshly churned content into knowledge.

#### **SKILLS**

Cloud: performing Google certification for Machine Learning Engineer.

Languages proficient	Languages advanced	Languages familiar
Python,, R, and VBA.	C++,, SQL, and Visual	Linux, HTML, Java, SMSS, and
	Studio.	XML.

- Representational State Transfer (REST) APIs with Facebook, REDCap, and Twitter.
- Libraries: caret, e1071, ggplot2, klar, pandas, sci-kit-learn, and Tensorflow2.
- NLP proficient: strip/regex, information extraction, detection, negation, sentiment.
- Multimedia: (~Sphinx), Photoshop, Illustrator, Help/Manual, LaTeX, and Markdown.
- Research: fact sheets, X9 bibliographic database, literature review and summary.
- <u>Technical writing</u> including circuitry, robotics, SaaS, and methodology.