

## Brian Hogan, M.S.

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### RESEARCH INTERESTS

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#### 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 [REDACTED] using LDA et al.
- Form [REDACTED] matrix [REDACTED] complexity index.
- Validate score mechanism and validate methods for accuracy and effectiveness.
- Release a [REDACTED] library on [pypi.org](https://pypi.org) to expand the user community.
- Actively working in [OpenAI](#)'s REST API to implement test model environments.

#### II. Artificial intelligence's 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.
  - A lecture on "propensity" left two students puzzled. Thankfully, the students sought clarification, but the potential for abuse highlights the importance of responsible AI design.

#### 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<sup>1</sup>. 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.
- Multimedia learning modalities are expanding exponentially. Machine learning experts like Lex Fridman (<https://lexfridman.com/>) provide deep and wide content to broaden young learners' knowledge framework and look-ahead capabilities.
- **Outcome:** a harvested compendium of fresh content churned into knowledge.

### SKILLS

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- Cloud: performing Google certification for [Machine Learning Engineer](#).

Languages proficient	Languages advanced	Languages familiar
<a href="#">Python</a> , R, and VBA	<a href="#">C++</a> , SQL, and Visual Studio	Linux, HTML, Java, SMSS, and 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.
- [Technical writing](#) including circuitry, robotics, SaaS, and methodology.

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<sup>1</sup> Bass, E., De Jong, D, (2020). Computer Science Courses as a Graduation Requirement at the State and National Level: A Policy Brief. International Journal of Educational Leadership Preparation, v15 n1 p126-133 Spr 2020. Retrieved from: <https://eric.ed.gov/?id=EJ1254594>.