

Brian Hogan, M.S.

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<[in](#)><[github](#)><[portfolio](#)>
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EDUCATION

Syracuse University, Syracuse, NY Sept 2018 - Dec 2020
M.S. Applied Data Science

Boston College, Chestnut Hill, MA Sept 2000 - May 2001
M.S. Sociology, Statistics. Matriculated; incomplete; work relocation.

Harvard University, Cambridge, MA Sept 1997 - June 1999
C.S.S., Business Administration, Harvard Extension School
Eight full-term, in-person classes.

Babson College, Wellesley, MA Sept 1989 - May 1993
B.S. Business Administration
Departmental Degree in Psychology, Wellesley College

CURRICULUM, INSTRUCTIONAL, AND CONTENT CREATION

Author [Noodle](#), New York, NY, 10011, [Elissa Lappendga](#), contract Mar - Aug 2023
graduate course: [COSC526](#), Introduction to Data Mining @ www.utk.edu

Drafted a 10-module course in data mining constructed with advanced algorithms and practitioner skilling for operating Apache Spark, recommender systems, and MLflow scaling in a Colab coding environment.

Content Writer **Google Inc**, Learning Lab, NY, NY (via synergis) 03/22 - 11/22
course: Google 2023 [Advanced Data Analytics Certificate \(Coursera\)](#)

- [Performed](#) lead writing and programming for a 7-module course for skilling in data objects, iterators, transformations, and classes.
- Edited scripts for nomenclature, constructs, and continuity.
- Created two course capstone projects amalgamating cross course material for OLS, LR, MLR, logistic, chi-sq, supervised, SVM.
- Drafted 21 knowledge reading and ten codebooks with >3000 lines.
- Trained in 18 E-Learning multimedia assets like prompts and quizzes.
- Passed [coding](#) entrance examination.

[Author](#) **ICARUS AI E-Learning**, 100 Wilshire Blvd, Santa Monica, CA 12/22 -
A. course: [>_7.Pillars.Writing.with.ChatGPT \(in development\)](#) 04/23

- Principles, mechanics, and Python with ChatGPT REST-API to sharpen information exchange with polysyllabic and epexegesis techniques.
- Train in discourse originality metrics, entropy, and reading level.

B. course: [> 7.Pillars.of.Python](#)

Formulated course for experiencing neuroplasticity with data object transformation coding paradigms and class objects to deliver outcomes.

- Targets those who need dependable methods for AI, ML, and stats.
- Builds sophistication in numeric and text data pack and unpack that enables skills for rapid decoding of new library objects and methods.

CURRICULUM, INSTRUCTIONAL, AND CONTENT CREATION (continued)

Curriculum Developer, Southern New Hampshire University, Manchester, NH 02/22–

A. **course:** [IT-226](#) *Communication in STEM Professions (undergraduate)*

Update course with advanced persuasion writing skill methods and

- Instill polysyllabic learning by germinating 2-9 [syllable word trees](#) from diverse content to form voice pillars and authenticity.
- Construction of class corpus for interactive learning.
- Provide writing assistance learning technology, like entropy.

Performed contracted instructional design for

B. **course:** [IT-304](#) *Systems Design and Analysis (undergraduate)*

- Update learning objectives, weekly lectures, re-engineering methodologies, Python materials, and interactive learning moments.

Content Writer EXPO Summer Programs, Norwood, MA 04/21 – 06/21

- [Designed](#) a high school AI intensive course w ethics and use cases.
- Provided 50 pages, 10,821 words, for in-person instructor training.

Curriculum Developer, ProModel Corporation, Orem, UT 2004 – 2014

Department: Consulting

Performed instructional design and [technical curriculum](#) development for

- **Lockheed Martin**, San Antonio, TX. Wrote a customized simulation course for scheduling engine overhaul for F-22 and F-35 Lightning.
- **NASA**, Kennedy Space Center, Titusville, FL. Designed and delivered discrete-event curriculum for optimizing a paper-to-image system.
- **NASA**, Washington, DC. Developed curriculum for simulating space asset portfolio resource requirements with complex algorithms and ETL.
- [West Point](#), West Point, NY. Developed curriculum for war-based resources and logistics.

INSTRUCTOR EXPERIENCE

Adjunct Faculty Instructor of Computer Science, American Language and Culture Institute
Clark University, Worcester, MA 08/23 –

Instruct in-person weekly system logic, data structures, and C++ coding.

- *MSCS 3050 Software Life Cycle*
- *MSCS 3070 Survey of Systems and Programming Languages* Fall 2023

Adjunct Faculty Instructor, Department of Computer Science 02/22 –
Southern New Hampshire University, Manchester, NH
Instruct in-person semiweekly lectures fostering active learning.

[IT-304](#) *Systems Design and Analysis* Fall 2022, Fall 2023

- Instruct theoretical, reengineering, and systems analysis and design in [ten](#) re-engineering methodologies with Python programming.
- Update learning objectives, weekly lectures, re-engineering methodologies, Python materials, and design interactive learning.

[IT-226](#) *Communication in STEM Professions* Spring 2023

- Instill approaches to achieve specific and precise conclusions in interpersonal relations in STEM professions.

INSTRUCTOR EXPERIENCE (continued)

- Adjunct Faculty** **Instructor, Department of Computer Science** 04/23 –
Benjamin Franklin Cummings Institute of Technology, Boston, MA, 02116
[CT-144](#) Intermediate C++, bhogan@franklincummings.edu Summer I 2023
- Instruct C++ and Python programming; Summer tutor contract for C++.
- Corporate Trainer** *Industrial Simulation and Discrete-event Curriculum* 2004 – 2016
ProModel Corporation, Orem, UT
Delivered in-person programming and simulation training ~5-7 times
yearly, such as Lockheed Martin, Merck, NASA, Pfizer, and [West Point](#).

PROFESSIONAL EXPERIENCE

- Technical Writer and Illustrator II, Alert Innovation**, Billerica, MA 11/21 – 03/22
Department: Learning, Training, and Development
- Draft novel maintenance, service, and structure advanced robotic media for training, service, strip-down repair, and diagnostics.
 - 12 [maintenance manuals](#), 11 service procedures, and two [user manuals](#).
- Scientific Editor** *Data science peer-reviewed publications* 07/20 – 06/21
Accdon, LLC (Publishing Services), Waltham, MA
- Passed [exam](#); trained with style guide; edited 3 journal manuscripts.
- Simulation Industrial Engineering Consultant**, ProModel Corporation, Orem, UT 03/04 – 01/16
Performed 30+ business process [reengineering](#) and application development in defense (security clearance), manufacturing, and pharma industries.
- Strategic assessments, project management, and wrote specifications.
 - Coding with C++ and system [design](#) with ERD, EER, [DFD](#), and [IDEF0](#).
 - [Demand](#) planning, resource/budget forecasting, and program management.

INSTRUCTIONAL READINESS

Machine Learning, Systems, and Programming

- Intro to advanced Python and R.
- Systems analysis theory and design methodology.
- Text and image mining with algorithm theory and pypi.org libraries.
- Scripting for the data science pipeline (REST APIs, regex, MongoDB).
- Introduction to natural language processing.
- Introduction to database administration concepts and management.

Statistics

- A. **Bayesian** - suitable to instruct using existing university materials but require time and or assistance to construct a course.
- a. Classwork: Stanton, J. (2017). [Reasoning with Data](#) – An Introduction to Traditional and Bayesian Statistics using R.
 - b. Personal: Marin, J-M et al. (2014). [Bayesian Essentials with R](#).
 - i. Inference, ANOVA, association, mR, categorical, series.
- B. **Frequentist** - statistical theory, classification, convolutional neural networks, decision tree, linear regression, logistical regression, multiple linear regression, principal components analysis, probabilistic, support vector machine, and unsupervised.

SKILLS

Proficient	Advanced	Familiar
Python , R	C++ , Java, SQL, VBA, VS	Linux, HTML, SMSS, 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.

UNIVERSITY SERVICE

- Mentor** **Southern New Hampshire University, Manchester, NH**
- A. *e-Equipment Donor* *e-Trash Recycling, Winchester, MA* 07/22 -
• *Partner with municipality to provide students with monitors (11), cables(+10), and miscellaneous items like graphic boards (3).*
- B. Amazon Web Services Coding Jam Competition 10/22 & 04/23
• 04/23 entered eleven students and JamesT won last year (10/22)!
- 10/22 entered 3 students in ~50 student four school competition.

PROFESSIONAL DEVELOPMENT

- i. **DeepLearning.AI and Open.AI Training** 04/23 - 05/23
course: ChatGPT prompt engineering for developers by Isa Fulford and Andrew Ng
• Performing intensive prompt training
• Practical use case: Testing GPT 3.5 prompting for [course grading](#) and outcome.
- ii. **Google Cloud, Machine Learning [engineer](#) certification** 11/22 -
• Fifteen courses for professional certification, planned completion 1Q24
- iii. **Google Learning Lab, Multimedia asset design training** 03/22 - 07/22
• Performed E-Learning multimedia training on 18 assets like readings, vignettes, segmentation, cognitive balancing, Flesch Kincaid, contiguity, and signaling.
- iv. **Amazon Web Services, Account ID: FpFKzlcOwkmK4YPzjMp3JA2** 2020
• Performed [training](#) on the platform's stack across 14 academy classes, seven live [twitch](#) videos, and books by experts [J. Simon](#), and [C. Fregly, A. Barth](#).
• Invited for a third data engineering position interview but not selected.
- v. **Data Science Specialization Certificate, Johns Hopkins via Coursera** 2016 - 2017
• <https://www.coursera.org/specializations/jhu-data-science>
- vi. **Re-engineering**
• Edward Tufte: Analyzing and Presenting Data and Information 2000
• Hammer and Company: Reengineering Process Mastery, www.hammerandco.com 1997 - 1999

RESEARCH EXPERIENCE

- Research [Volunteer](#) 23-bed, 63-nurse and associate acute care floor 06/21 - 01/22
Winchester Hospital, Winchester, MA
Manager: Debra Barbuto, RN, MSN, debra.j.barbuto@lahey.org
- A. Investigated the efficacy of evidence-based purposeful hourly rounding on patient [falls](#) and length of stay satisfaction, including
- Designed the data collection and encoded three months of daily patient measurements.
 - Performed REDCap API data transfer training in R software with CRAN `data.table` package.
 - Outcomes: [adopted](#) purposeful hourly rounding.
- B. Assisted in evaluating call bell [signal](#) standardization across units to help distinguish noncritical from critical care requests.
- Located call bell [parts](#); IT unable to perform system upgrade.

ADVISING

- Career Advisor **FIRSTHAND Advisors**, <https://harvardocs.firsthand.co/> 2021 - 2023
Office of Career Services, Harvard University
- Perform 2-4 free annual reviews of student resumes and portfolio.
- Graduate Advisor **Nursing, programming fundamentals, and research topics** 2017 - 2018
Self-employed, Greater Boston Area
- Scheduled and advised nursing students on their topic research, survey design, use of scales, editing, and statistics.
 - Developed a student's writing and logic across research, fact sheets, and healthcare policy assessments.

AWARDS AND HONORS

- A. **foobar participant**, Google, Inc Spring 2022
- Deep Python and Linux research yielded an [invitation](#) to this elusive challenge.
 - Completed three challenges before timing out.
- B. [Lex Fridman](#) interview finalist, personal secretary 10/20 - 01/21
- Lex redefined tough. Grateful for his personal attention. Yes! I have his email.
- C. **Golden Key International Honour Society**, Member 10/20 -

MENTORING EXPERIENCE

Name	Institution	Department	Mentoring Focus	Date	Position
• Andrew	SNHU	Comp. Sci.	Skill Development	06/23 - 08/23	junior
• PietroL	SNHU	Comp. Sci.	Study coaching	02/23 - 03/23	sophomore
• Selenaw	Winchester	Inpatient	TEAS exam tutoring	10/22 - 11/22	Certified Nurse
• TeddyM	Alert	IT	Portfolio, personal	02/22 - 09/22	IT Analyst II

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 [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 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[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.
- 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.

VOLUNTEER

Mr. Fix-it, First Congregational Church, Winchester, MA, karenbellacosa@me.com 03/23,06/23

- Perform repairs of lights, bits, and bobs at the annual church bazaar café.

Wikipedia Language Editor, Account ID: bhogansnhu.edu

08/22 -

- Perform periodic article editing and updating with research citations.

Trash to Treasure, Winchester High School Art Department, MA

11/20 - 09/21

- Jackson Lumber and Millwork, Manager Geoff MacKay, Woburn, MA
- [Gathered](#) cutoffs, paint, and supersize cardboard for chair Jenn Levatino.

REFERENCES

Dr. Kim Bo, Ph.D.

Computer Science Department [Chair](#), Professor
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Instructional Designer at Google, Learning Lab
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