

Brian Hogan, M.S.

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

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 and statistics. Matriculated and completed 5 courses; 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 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 with advanced algorithms and practitioner skilling for operating Apache Spark, recommender systems, and MLflow scaling in a Colab environment.

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

- [Lead](#) writer for course 2 of 7, [Get Started with Python](#).
- Produced 21 instructional readings and 10 codebooks with >3000 lines.
- Developed two capstone projects integrating OLS, LR, MLR, logistic, chi-sq, supervised learning, and SVM.
- Reviewed and edited scripts for verbiage, constructs, and continuity.
- Trained in 18 E-Learning multimedia assets like prompts and quizzes.
- Passed entrance [coding](#) exam and admitted to foobar.withgoogle.com

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

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

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

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

Author	ICARUS AI E-Learning, 100 Wilshire Blvd, Santa Monica, CA	12/22
	<ul style="list-style-type: none"> • course: > 7.Pillars.of.Python Formulated course for experiencing neuroplasticity with data object transformation coding paradigms and class objects to deliver outcomes.	
Content Writer	EXPO Summer Programs, Norwood, MA	04/21 – 06/21
	<ul style="list-style-type: none"> • 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
	<i>Department: Consulting</i> Performed instructional design and technical curriculum development for <ul style="list-style-type: none"> • 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, NY. Developed curriculum for war-based logistics. 	

INSTRUCTOR EXPERIENCE

Instructor	School of Professional Studies, Computer Science, graduate Clark University, Worcester, MA	
	MSCS-3050 <i>Software Life Cycle, on-ground</i>	Fall 2023
	<ul style="list-style-type: none"> • Design concepts, paradigms, quality, testing, configurations. 	
	MSCS-3070 <i>Survey of Systems and Programming Language</i>	ibid.
	<ul style="list-style-type: none"> • Bits, von Neumann, LC-3, Assembly, data structures, IO, C, C++. 	
Instructor	Department of Computer Science, undergraduate, in-person Southern New Hampshire University, Manchester, NH	Feb 2022
	IT-304 <i>Systems Design and Analysis</i>	Fall 2022 & 2023
	<ul style="list-style-type: none"> • Instruct using ten system design and reengineering ontologies. • Emphasize their practical applications in Python architecture. • Contracted for instructional design of lectures and multimedia. 	
	IT-226 <i>Communication in STEM Professions,</i>	Spring 2023
	<ul style="list-style-type: none"> • Foster specific and precise communication skills for effective interpersonal interactions within STEM professions. • Use interactive code, data, text corpora, and NLP, for information extraction, template generation, and GPT augmentation. 	
Instructor	Department of Computer Science Benjamin Franklin Cummings Institute of Technology, Boston, MA, 02116	
	CT-144 <i>Intermediate C++</i>	Summer I 2023
	<ul style="list-style-type: none"> • Summer tutor contract for C++ programming instruction. 	
Teacher	ICARUS AI E-Learning, 100 Wilshire Blvd, Santa Monica, CA	Fall 2022
	> 7.Pillars.of.Python.Essentials	
	<ul style="list-style-type: none"> • Specialized data transformation and Python essential coding. 	

Tutor *Data Science and Programming*, <https://tutormatchingservice.com> 2019 - 2020

- [Tutored](#) data science in R and Python.

Corporate Trainer **Industrial Engineering Simulation with Discrete-event** 2004 - 2016
ProModel Corporation, Orem, UT
Performed 5-7 per year on-ground custom solution simulation training, instructional design, and [technical curriculum](#) development for

- **Lockheed Martin**, San Antonio, TX. F-22 and F-35 engine overhaul.
- **NASA**, Kennedy Space Center, FL. Optimizing paper-to-image system.
- **NASA**, Washington, DC. Space asset portfolio resource requirements, cost and personnel, data ETL, and scenario of sliding time scales.
- [West Point](#), NY. War-based resources and logistics.

Riding Instructor *Equestrian field sports* 2002 - 2012
Gone Away Farm, Voluntown, CT (part-time)
Taught horsemanship for adult and junior riders; [raised](#) 14 companions

PROFESSIONAL EXPERIENCE

Technical Writer and Illustrator II, Alert Innovation, Billerica, MA 11/21 - 03/22
Department: Learning, Training, and Development
Drafted advanced robotic media for training, service, strip-down repair, and diagnostics, including

- 12 [maintenance manuals](#)
- 11 service procedures and 2 [user manuals](#).

Scientific Editor *Data science peer-reviewed publications* 07/20 - 06/21
Accdon, LLC (Publishing Services), Waltham, MA

- Trained with scientific style guide and edited 3 journal manuscripts.

Industrial Engineering Simulation Management Consultant, ProModel Corp, Orem, UT 2004 - 2016
Performed 30+ [reengineering](#) and application implementations in pharma, manufacturing, and defense with *security clearance*, including

- Leadership of clients and software development staff.
- Strategic assessments, design, specifications, and implementation.
- [Demand](#) planning, resource/budget forecasting, and program management.
- Coded with C++ and system [design](#) tools like ERD, EER, [DFD](#), and [IDEF0](#).
- Simulation curriculum creation and delivery for NASA and WestPoint.

SKILLS

Proficient	Advanced	Familiar	IDEs
Python , R	C++ , Java, SQL, VBA	Linux, SMSS	Spyder, Visual Studio

- Representational State Transfer (REST) [APIs](#) with Facebook, REDCap, and Twitter.
- Libraries: caret, e1071, ggplot2, klar, pandas, sci-kit-learn, and Tensorflow2.
- **NLP** - levels of language, lexical semantics, POS, negation, grammatical mood.
- 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.

INSTRUCTIONAL READINESS

Generative AI, Machine Learning, Programming, and Systems

- AI Prompt engineering, text synthesis, and fact sheet construction.
- Systems analysis design, re-engineering, and theoretical paradigms.
- Text and image mining with algorithm theory and pypi.org libraries.
- Scripting for the data science pipeline (REST APIs, regex, mongoDB).
- Introduction to advanced NLP like lexical semantics, POS, negation.
- Introduction to database administration concepts and management.

Statistics

- A. **Bayesian** - suitable to instruct with existing university materials.
- a. Classwork: Stanton, J. (2017). [Reasoning with Data with R](#)
 - b. Personal: Marin, J-M et al. (2014). [Bayesian Essentials with R](#).
 - Inference, ANOVA, association, mR, categorical, series.
- B. **Frequentist** - statistical theory, classification, convolutional neural networks, decision tree, linear regression, logistical regression, multiple linear regression, PCA, SVM, and unsupervised.

ADVISING & CASE WORK ASSISTANCE

Computer literacy assistant for Patients with Schizophrenia 09/2023 -

- Assist Lauren, a young adult with schizophrenia, in pursuing her desire to code and work for the Navy or NASA. Lauren is a brilliant person with a recorded IQ of 137. Family circumstances contributed to scholastic neglect, but at age 10 she proved herself as HTML programmer.
- Now, at 22, efforts focus on reaffirming digital literacy for a sustainable pathway toward employment and improved quality of life.

Name	Place	Department	Position	Focus	Date
• Andrew	SNHU	Comp. Sci.	Junior	ADHD skill development	06/23 - 08/23
• PietroL	SNHU	Comp. Sci.	Sophmore	ADHD study coaching	02/23 - 03/23
• Selenaw	W.Hospital	Inpatient	Nurse.Asst	TEAS exam tutoring	10/22 - 11/22

Career Advisor **FIRSTHAND Advisors**, <https://harvardocs.firsthand.co/> 2021 - 2023
Office of Career Services, Harvard University

- Service work of 2-4 annual reviews of student cv and portfolio.

Graduate Advisor **Nursing, programming fundamentals, and research topics** 2017 - 2018
Self-employed, Greater Boston Area

- Advised nursing students in logic and methods in topic research, survey design, and statistics.
- Writing abstracts, fact sheets, and healthcare policy assessments.

UNIVERSITY SERVICE

Donor **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).

Mentor 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.

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 inventory their work for authenticity scoring substrate.
- 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](https://openai.com)'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.

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.

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 data collection and encoded 3 months of patient metrics.
- Performed REDCap API data transfer in R software with CRAN `data.table`
- 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.

PROFESSIONAL DEVELOPMENT

- i. **Generative AI Training at DeepLearning.AI and Open.AI** Spring 2023 -
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 Learning Lab, Multimedia asset design training** Spring 2022
 - Performed E-Learning multimedia training on 18 assets including readings, vignettes, segmentation, cognitive balancing, Flesch Kincaid, and signaling.
- iii. **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](#).
- iv. **Data Science Specialization Certificate, Johns Hopkins via Coursera** 2017
 - <https://www.coursera.org/specializations/jhu-data-science>
- v. **Re-engineering & Statistical Visualization Specialization Training**
 - Edward Tufte: Analyzing and Presenting Data and Information 2000
 - Hammer and Company [Reengineering Process Mastery](#) 1997 - 1999

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.
- C. **Golden Key International Honour Society, Member** 10/20 -

VOLUNTEER

- A. **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.
- B. **Wikipedia Language Editor, Account ID: bhogansnhu.edu** 08/22 -
 - Perform periodic article editing and updating with research citations.
- C. **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.
- D. **Mechanical Turk, amazonmturk, ID = A3IWDP1WNMWVR8** 2020 - 2021
 - Learned crowdsourcing; 1017 human intelligence tasks; classification; extraction.

With all forms of wisdom did she build her house; she carved out its seven pillars. She prepared her meat, mixed her wine, and also set her table. She has sent out her maidens, she announces upon the wings of the city heights: "Whoever is a simpleton, let him turn here!" As for the one who lacks heart, she says to him: "Come, partake of my food and drink of the wine that I have mixed. Leave, O simpletons, and live, and stride in the way of understanding." ~Proverbs 9:1-6

REFERENCES

Dr. Kim Bo, Ph.D.

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<Thank you for considering his prior reference material below.>

I'm deeply grateful to the following for their generosity, kindness, and time supporting my recommendations for teaching and writing endeavors.

- [Professor Humayun Kahn](#), MS, MBA [DPS program recommendation](#), [technical writer recommendation](#)
 - [Dr. Mitchell Kase](#), MD
 - [David Primrose, MS](#), Oracle Cloud Leader, academic peer
 - Debra Kernstock, MS, Katie Poole, MS, Professor Ralph Garcia-Reilly,
- And [Professor John Santerre](#), PhD - congrats on [working](#) with **Andrew Ng Sept 2023!**