

Brian Hogan, M.S.

Instructor of Computer Science
School of Professional Studies
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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, 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

INSTRUCTOR EXPERIENCE

Instructor

School of Professional Studies, Computer Science, graduate
Clark University, Worcester, MA

[MSCS-3050](#) *Software Life Cycle, on-ground* Fall 2023

- Design concepts, paradigms, quality, testing, configurations.

[MSCS-3070](#) *Survey of Systems and Programming Language* ibid.

- Bits, von Neumann, LC-3, Assembly, data structures, IO, C, C++

Instructor

Department of Computer Science, undergraduate
Southern New Hampshire University, Manchester, NH

Feb 2022

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

- Instruct theoretical, reengineering, and systems analysis and design in [ten](#) re-engineering methodologies with Python coding.
- Updated lectures, knowledge media, and interactive coding labs.

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

- Instill approaches to achieve specific and precise conclusions in interpersonal relations in STEM professions.
- Developed an interactive corpus for machine learning and text mining using corpora for information extraction and retrieval.

Instructor

Department of Computer Science
Benjamin Franklin Cummings Institute of Technology, Boston, MA, 02116

[CT-144](#) *Intermediate C++* Summer I 2023

- 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](#)

- 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 ProModel Corporation, Orem, UT Performed 5-7 per year on-ground custom solution simulation training, instructional design, and technical curriculum development for <ul style="list-style-type: none"> • Lockheed Martin, San Antonio, TX. Engine overall for F-22 and F-35. • 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, West Point, NY. War-based resources and logistics. 	2004 - 2016
Riding Instructor	<i>Equestrian field sports</i> Gone Away Farm, Voluntown, CT (part-time) <ul style="list-style-type: none"> • Taught horsemanship for adult and junior riders; raised 14 companions 	2002 - 2012

CURRICULUM AND CONTENT CREATION

Author	Noodle , New York, NY, 10011, Elissa Lappendga , contract <i>graduate course: COSC526, Introduction to Data Mining @ www.utk.edu</i> 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.	Mar - Aug 2023
Content Writer	Google Inc , Learning Lab, NY, NY (via synergis) <i>Coursera course: Google 2023 Advanced Data Analytics Certificate</i> <ul style="list-style-type: none"> • Performed lead writing and programming for a 7-module course for skilling in data objects, iterators, transformations, and classes. • Edited scripts to 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 readings, ten codebooks with >3000 lines. • Trained in 18 E-Learning multimedia assets like prompts and quizzes. • Passed coding entrance examination. 	03/22 - 11/22
Curriculum Developer , Southern New Hampshire University , Manchester, NH	02/22 - A. <i>course: IT-226 Communication in STEM Professions</i> Update course with advanced persuasion writing skill methods and <ul style="list-style-type: none"> • 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. <i>Performed contracted instructional design for</i> B. <i>course: IT-304 Systems Design and Analysis</i> <ul style="list-style-type: none"> • 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 <ul style="list-style-type: none"> • <i>course: > 7.Pillars.of.Python</i> Formulated course for experiencing neuroplasticity with data object transformation coding paradigms and class objects to deliver outcomes.	12/22

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.

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

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

Industrial Engineering Simulation Management Consultant, ProModel Corp, Orem, UT 2004 – 2016

Performed 30+ business process [reengineering](#) and application implementation in defense (security clearance), manufacturing, and pharma industries.

- Leadership of clients and internal staff performing
- 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](#).

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 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.

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.

ADVISING

Career Advisor	FIRSTHAND Advisors, https://harvardocs.firsthand.co/ Office of Career Services, Harvard University	2021 - 2023
	<ul style="list-style-type: none">• Perform 2-4 free annual reviews of student resumes and portfolio.	
Graduate Advisor	<i>Nursing, programming fundamentals, and research topics</i> <i>Self-employed, Greater Boston Area</i>	2017 - 2018
	<ul style="list-style-type: none">• 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.	

UNIVERSITY SERVICE

Mentor	Southern New Hampshire University, Manchester, NH	
	A. <i>e-Equipment Donor</i> <i>e-Trash Recycling, Winchester, MA</i>	07/22 -
	<ul style="list-style-type: none">• 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
	<ul style="list-style-type: none">• 04/23 entered eleven students and JamesT won last year (10/22)!• 10/22 entered 3 students in ~50 student four school competition.	

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

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 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.

PROFESSIONAL DEVELOPMENT

- i. **DeepLearning.AI and Open.AI Training** 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 like readings, vignettes, segmentation, cognitive balancing, Flesch Kincaid, contiguity, 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, www.hammerandco.com 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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Grow with Google Career Certificates
Advisory Board at University of Houston
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Content Writer at Google, Learning Lab
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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!