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EDUCATION

Northcentral University, San Diego, CA 2023 -
Doctor of Philosophy in Data Science, matriculated

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

TEACHING EXPERIENCE

Teacher

ICARUS AI E-Learning, 100 Wilshire Blvd, Santa Monica, CA 12/22 –

- Augment quiz complexity based on AI population result metrics.

A. *>_7.Pillars.Writing.with.ChatGPT (in development)*

- Form programmatic skills to achieve specific and precise conclusions by partnering AI with polysyllabic ontologies.

B. *>_7.Pillars.Python.Essentials (in testing)*

- Python coding essentials skilling in data objects, transformation, iterators, conditionals, functions, and objects deliver outcomes.

Adjunct Faculty

Department of Computer Science 02/22 –
Southern New Hampshire University, Manchester, NH

- Apply organic structures and code for collaborative active learning.

IT 226 Communication in STEM Professions Spring 2023
Southern New Hampshire University

- Instill approaches to achieve specific and precise conclusions in interpersonal relations in STEM professions.
- Relay and experience NLP and text mining fundamentals in information extraction, retrieval, and corpora statistics.

IT 304 Systems Design and Analysis Fall 2022
Southern New Hampshire University

- Form a theoretical, reengineering, and systems analysis and design mindsets building upon ten methodologies.
- Perform reverse engineering of small-scale physical systems to bridge designs with transaction generation and functional engineering.

TEACHING EXPERIENCE (continued)

Tutor *Data Science and Programming,* https://tutormatchingservice.com 2019 – 2020

- Tutored data science in both R and Python, including text and data mining, machine learning, statistics, and ggplot2 visualization.

Corporate Trainer *Data Science and Discrete-event Simulation Curriculum* 2004 – 2014
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.

Riding Instructor *Equestrian field sports* 2002 – 2012
Gone Away Farm, Voluntown, CT (part-time)

- Trained adult and junior riders. Raised and trained 14 companions.

INSTRUCTIONAL DESIGN, CURRICULUM DEVELOPMENT, and CONTENT CREATION

Content Creator **Noodle, New York, NY** (contract) 03/23 – 06/23
course: COSC 526, Intro to Data Mining (graduate)

- Partner with learning designers to complete course content blending theory, algorithms, and code for an online ten module course.
- for COSC 526, Intro to Data Mining (grad) at UTK.

Author **ICARUS AI E-Learning**, 100 Wilshire Blvd, Santa Monica, CA 12/22 – b.hogan@icaruseducation.com

A. *course: >_7.Pillars.Writing.with.ChatGPT* 04/23
Two students used ChatGPT to pass classes but not in their voice. Designed course that builds ownership of one's authentic AI voice.

- Includes principles, mechanics, and Python with ChatGPT REST-API to deepen one's love of language and self-expression, including
  a) Assess metrics representing discourse originality.
  b) Sharpen information exchange with polysyllabics by ontology.
  c) Apply appropriate epexegesis techniques.

B. *course: >_7.Pillars.of.Python*
Formulated a novel Python course for learners to experience neuroplasticity with data object transformation by coding iterators, conditionals, and functions with class objects to deliver outcomes.

- Targets learners who question if their skills provide dependable, specific means to transform data for stats and machine learning.
- Builds sophistication in numeric and text data pack and unpack.
- Provides means to decode new libraries and learn objects quickly.

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

- Performed lead writing and programming for a 6-part Python course.
- Built training and staged knowledge for skilling in data objects, conditionals, functions, iterators, transformations, and classes.
- Edited scripts to for nomenclature, constructs, and continuity.
- Reviewed and summarized neuroscientific literature.
- Created two course capstone projects amalgamating cross course machine learning and statistical methods, including simple, multiple, logistic, chi-sq, regression, clustering, and validation.
- Drafted 21 knowledge readings, ten codebooks with >3000 lines, four course projects, three self-reviews, and tether filming code scripts.
- Trained in 18 E-Learning multimedia assets like prompts and quizzes.
- Passed coding entrance examination.

INSTRUCTIONAL DESIGN AND CURRICULUM DEVELOPMENT (continued)

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

Perform instructional design for

A. *course: IT-226 Communication in STEM Professions (undergraduate)*
Update course with information policy research, ethics theory, sentiment exercises, and advanced persuasion techniques including

- Active polysyllabic word learning by germinating 2-9 syllable word trees from diverse content to teach and thwart AI plagiarism tasks
- Construction of class corpus for sentiment and LDA analysis.
- Experiences and methods for working successfully with ChatGPT.

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
Department: Education and Training

- Designed a 1-week AI foundations course with 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 and performed in-person training for modeling 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

- Interviewed operation owners and engineers to draft and update documentation for quality robotics and complex operating structures.
- 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 and completed scientific language editing training.
- Edited three manuscripts for peer-review journal publication.

***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. Leadership of clients and developers included

- 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.

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.

UNIVERSITY SERVICE

Mentor Southern New Hampshire University, Manchester, NH

A. Undergraduate Research Day 04/23
ChatGPT's Discourse on the Method *(posterboard)*
- Measure polysyllabic information exchange quality with ChatGPT.
- Admittance entitles students to apply for a scholarship.

B. **Amazon Web Services Coding Jam Competition** 10/22 & 04/23
- Provided three students with custom training for a four school, ~50 students, AWS hackathon. Team successfully finished challenge.

e-Equipment Donor **Winchester Transfer 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).

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.
   c. Inference, ANOVA, association, mR, categorical, time 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

- Cloud: performing Google certification for Machine Learning Engineer.

Languages proficient	Languages advanced	Languages familiar
Python,, R, and VBA.	C++,, 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.

RESEARCH INTERESTS

I. Use of polysyllabic for authenticity identification.

Assessing polysyllabics and logodaedaly could support the testing and developing 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.
- 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 if 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 [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 (https://lexfridman.com/) 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.

PROFESSIONAL DEVELOPMENT

i. **Google Cloud, Machine Learning engineer certification** 11/22 –
- Fifteen courses for professional certification.
- https://www.cloudskillsboost.google/paths/17. Account ID: b.hogan@snhu.edu.

ii. **Google Learning Lab, Multimedia asset design training** 03/22 – 07/22
- Performed E-Learning multimedia training, including segmentation, personalization, cognitive load balancing, Flesch Kincaid measuring, contiguity, and signaling.
- Trained on 18 multimedia E-learning designs like readings, vignettes, and quizzes.

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.
- Invited for a third data engineering position interview but not selected.

iv. **Data Science Specialization Certificate,** Johns Hopkins via Coursera 2016 - 2017
- https://www.coursera.org/specializations/jhu-data-science

v. **Edward Tufte: Analyzing and Presenting Data and Information** 2000

vi. **Hammer and Company: Reengineering Process Mastery,** www.hammerandco.com 1997 – 1999

PROFESSIONAL DEVELOPMENT

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Edward Tufte: Analyzing and Presenting Data and Information 2000
- Cognitive Style of PowerPoint

Hammer and Company: Reengineering Process Mastery, www.hammerandco.com 1997 – 1999

MENTORING EXPERIENCE

Name	Institution	Department	Mentoring Focus	Date	Position
• PietroL	SNHU	Comp. Sci.	Study coaching	02/23 – 03/23	sophomore
• SelenaW	Winchester Hospital	Inpatient Services	TEAS exam tutoring	10/22 – 11/22	Certified Nurse
• TeddyM	Alert	IT	Portfolio, personal	02/22 – 09/22	IT Analyst II
• HarrisonH			GED tutoring	03/20 – 07/20	

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 resume, CV, or portfolio.

Graduate Advisor — ***Nursing, programming fundamentals, and research topics*** — 2017 – 2018
Self-employed, Greater Boston Area
- Scheduled and advised graduates on their topic research, survey design, use of scales, editing, and statistics.
- Developed a student's writing and logic across nursing research papers, 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.

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 -

VOLUNTEER

Mr. Fix-it, First Congregational Church, Winchester, MA, karenbellacosa@me.com — 03/23
- Perform repairs of lights, bits, and bobs at the annual church bazaar café.

Study Participant, ClinicalTrials.gov Identifier: NCT05058950 — 10/22 -
An Observational Study Using Multimodal Sensors to Measure Cognitive Health in Adults and Distinguish Mild Cognitive Impairment from Normal Aging, a.k.a. Intuition study.
- Fascinated by the agency of iWatch biometrics and biomimetics multimodal sensors.

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.

Mechanical Turking, amazonmturk, ID = A3IWDP1WNMWVR8 — 2020 – 2021
- Participated to learn crowdsource methodologies.
- Performed 1017 human intelligence tasks (HITs) and human subject activities.
- 99.03% approval rating on classify, extract validation, and bot language training.

REFERENCES

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REFERENCES (continued)

Jim McCoy
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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)
- Professor Humayun Kahn, MS, MBA (technical writer position reference)
- Dr. Mitchell Kase, MD
- David Primrose, MS, Oracle Cloud Leader, academic peer
- And Debra Kernstock, MS, Katie Poole, MS, Professor Ralph Garcia-Reilly, and Professor John Santerre, PhD

CITATIONS

[1] 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.