HIEU Q. NGUYEN

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SUMMARY: A Data Scientist with expertise in Machine Learning, Computer Vision, NLP, and Generative AI techniques. Demonstrated success in leading technical projects, academic research, and mentoring. Pursuing a Ph.D. in Computer Science with a track record of published work and practical application.

QUALIFICATIONS

Experience	Machine Learning, NLP, Deep Learning, Agile Methodologies, Stakeholder Communication
Programming	Python, R, PyTorch, Keras, Tensorflow, SQL
Tools	Sklearn, NumPy, Pandas, Prophet, HuggingFace, SageMaker, AWS, LaTeX, Linux

EXPERIENCE

The Hartford 2021 - Present
Progression: Intern → Associate Data Scientist → Data Scientist

- Led in model development leading to enhanced loss models and a refined UI.
- Spearheaded the technical development of NLP-based assets.
- Streamlined model development and deployment using SageMaker and AWS.
- Utilized Oracle and Snowflake for efficient data queries, supporting analysis and modeling efforts.
- Employed enterprise GitHub for version control, fostering collaboration.
- Cultivated strong relationships with stakeholders and engineering teams to achieve project goals.
- Formulated data solutions that aligned with business objectives.
- Successfully deployed assets to detect misclassified policies.
- Developed a proprietary business classification model to enhance the quoting process, resulting in a patent application and its subsequent integration across various departments.
- Benefited from the McKinsey Leadership Program, focusing on strategic leadership and professional development.

Polygence 2020 - Present
Research Mentor

- Mentored undergraduates and high school students, emphasizing robust academic research techniques.
- Supervised 12 research projects, with several being recognized in academic journals.
- Fostered critical thinking, problem-solving, and a passion for research among mentees.
- Collaborated with the Polygence team to refine mentorship methodologies.
- Aided students in presenting their research for various academic and personal platforms.

University of Connecticut 2020 - Present
Graduate Assistant Researcher - Machine Learning & NLP

- Led research in financial forecasting and sentiment analysis using ML and NLP.
- Analyzed the spread of misinformation during COVID-19 protests through network analysis.
- Led research in detection of extremist content on social media.
- Employed PyTorch for various research projects, staying abreast of generative AI advancements.
- Managed the data pipeline: preprocessing, training, and evaluation, leading to multiple publications and conference presentations.
- Continued development in problem-solving, critical thinking, and effective communication skills.

Michigan State University 2018-2019
Graduate Research Assistant - Computer Vision

- Utilized GANs for object recognition and image reconstruction.
- Employed feature extraction techniques tailored for computer vision.
- Collaborated with faculty and researchers, fostering a proactive research environment.
- Balanced traditional computer vision algorithms with deep learning models.
- Presented research findings in various academic settings.

EDUCATION

University of Connecticut, Ph.D. Candidate in Computer Science — Expected 2024
Michigan State University, Ph.D. in Computer Science — Transferred
Western Connecticut State University, M.A. & B.A. Mathematics, Minor in Economics — 2018

PUBLICATIONS

- Nguyen, H., & Gokhale, S. S. (2022). Analyzing extremist social media content: a case study of Proud Boys. *Social Network Analysis and Mining*.
- Nguyen, H., Moon, J., Paul, N., & Gokhale, S. S. (2021). Sarcasm detection in politically motivated social media content. *IEEE*.
- Moon, J., Nguyen, H., Pines, B., & Gokhale, S. S. (2021). Detecting Offensive Content on Social Media During Anti-Lockdown Protests in Michigan. *IEEE*.
- Nguyen, H., & Gokhale, S. (2022). An efficient approach to identifying anti-government sentiment on Twitter during Michigan protests. *PeerJ*.
- Nguyen, H., Moon, J., Song, D., & Johnson, J. A Wavelet Decomposition based Ensemble Learning Framework for Short-Term Stock Prediction.
- Rahimyar, A, Nguyen, H., & Wang, X. (2019.) "Stock forecasting using M-band wavelet-based SVR and RNN-LSTMs models." *IEEE*
- Nguyen, Hieu Q., & Wang, Xiaodi. (2016). Pseudo quantum steganography with color barcode in m-band wavelet domain. *International Journal of Signal Processing*

Working Papers:

- Nguyen, H., & Wang, J. Low-Resolution Data Preprocessing for Image Super Resolution. *Manuscript in preparation.*
- Nguyen, H., & Gokhale, S. S. Network Analysis of User Interactions during the Michigan COVID-19 Protests: Identifying Key Players through Twitter Data. *Manuscript in preparation.*
- Nguyen, H., & Gokhale, S. S. Augmented BERT for Online Sarcasm Detection. *Manuscript in preparation.*

Selected Mentored Publications:

- Banerjee, S., & Nguyen, H. (2023). Dataset for identification of queerphobia. *Journal of Student Research.*
- Tsai, A., & Nguyen, H. (2022). Using Supervised Machine Learning to Predict House Prices. *Journal of Student Research.*
- Xu, K. (2022). Predicting housing prices and analyzing real estate markets in the Chicago suburbs using machine learning. *Journal of Student Research.* (Mentored by Hieu Nguyen)
- Choi, Kenneth, and Tony Lee. "Differentially Private M-band Wavelet-Based Mechanisms in Machine Learning Environments." (2019). **Silver Medal Winner at Yau's Award**. (Mentored by Ralph Venezia and Hieu Nguyen)

AWARDS

Winner of Codathon 8, Data and Analytics Vertical, The Hartford, 2023.

Predoctoral Fellowship, University of Connecticut, 2022.

Cigna Fellowship, University of Connecticut, 2019.

Provost Best Research Award Recipient, Western Connecticut State University, 2018.

Gloria Brunell Award in Mathematics, Honors Convocation, WCSU, 2017.

Honorable Mention Award, The Interdisciplinary Contest in Modelling, 2017.

Outstanding Presenters Award, Joint Mathematics Meeting, 2016.