HIEU Q. NGUYEN

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SUMMARY: An award-winning, published, and highly motivated Computer Science Ph.D. candidate working in Machine Learning, with extensive computer science implementation and mathematical modelling skills, including but not limited to Machine Learning, Data Science, Natural Language Processing, Recurrent Neural Networks, Convolutional Neural Networks, Time Series Analysis and Advanced Signal Processing Wavelets Transforms. My goal is to contribute and further explore this skillset in industry applications.

QUALIFICATIONS

Experience & Interests	Machine Learning, Data Analysis, Time Series Forecasting
Programming & Platforms	Python, Matlab, R, Pytorch, Keras, Tensorflow, Bash, SQL, Tableau
Software & Tools	FB's Prophet, Sklearn, NumPy, Pandas, MS Office, Minitab, LaTeX, Linux
Languages	English(fluent) — Vietnamese(native)

EXPERIENCE

RESEARCH

Offensive Tweets Detection Using Natural Language Processing
University of Connecticut *2020*

- Collect Twitter data on Michigan Protest.
- Perform word cloud visualization and data analysis.
- Use Natural Language Processing (NPL) to predict offensive tweets (84 percents accuracy).

Stock Forecasting based Machine Learning Methods
University of Connecticut (Research Assistant) *2019*

- Research and implement machine learning models such as LSTM, NLP, and big data analytics for stock forecasting.
- Analyze micro/macro economic behaviors.
- Use Natural Language Processing (NPL) for Twitter sentimental analysis.

Image Super-resolution
Michigan State University (Research Assistant) *2018-2019*

- Research on computer vision tasks, including object detection and image super-resolution using Generative Adversarial Networks(GANs) and Deep Convolutional Neural Networks (DCNNs) models.

Pseudo Quantum Steganography with Color Barcode in M-band Wavelet Domain (Published)
Western Connecticut State University *2015-2016*

- Using wavelet transforms to breakdown an image's frequency signals.
- Using pseudo quantum encryption method to embed secret information into the approximation portion.

TEACHING

- **Adjunct Professor** at Western Connecticut State University *2020*
- **Lab Instructor** at University of Connecticut *2020*
- **Teaching Assistant** at Michigan State University *2018-2019*
- **Math Tutor** at Western Connecticut State University *2014-2018*

INDUSTRY EXPERIENCE

Research Mentor at Polygence *2019-2020*

- Mentor students on Machine Learning projects.

Data Scientist at RabbitPre Intelligent Technology *2018*

- Implement state-of-the-art Optical Character Recognition(ORC) technique to recognize and classify Chinese characters.

Data Scientist at Wuxi Susheng Metal Products Co Ltd *2017*

- Implement object recognition using deep learning methods to identify and eliminate poor quality products during the assembly process.

EDUCATION

University of Connecticut *2022 (expected)*
Ph.D. Candidate in Computer Science. — Overall GPA: 4.10/4.30
University of Connecticut *2020*
M.S. in Computer Science.
Western Connecticut State University *2018*
M.A. Mathematics.— Overall GPA: 3.76/4.00
B.A. Mathematics — Minor in Economics. — Overall GPA: 3.97/4.00
Kathwari Honors Program

RELATED COURSEWORK

Graduate Courses
Financial Programming and Modeling — Financial Data Mining and Big Data Analytics — Social Media Mining and Analysis — Embedded Machine Learning — Advanced Data Structure and Algorithms — Advanced Networking System — Partial Differential Equations — Applied Statistics — Complex Analysis — Real Analysis — Abstract Algebra — Numerical Analysis — Wavelet and Tensor Decomposition in Machine Learning.
Undergraduate Courses
Machine Learning and Data Mining — Financial Mathematics — Probability for Statistics — Linear Algebra — Multivariate Calculus — Ordinary Differential Equations — Mathematical Statistics — Financial Accounting — Symbolic Computation — Mathematical Modelling Microeconomics — Macroeconomics — Growth Economics.

PUBLICATIONS

A. H. Rahimyar*, **H. Q. Nguyen*** and X. Wang, "Stock Forecasting Using M-Band Wavelet-Based SVR and RNN-LSTMs Models," 2019 2nd International Conference on Information Systems and Computer Aided Education.

Nguyen, H. Q., and Wang, X. (2016). Pseudo Quantum Steganography with Color Barcode in M-band Wavelet Domain. International Journal of Signal Processing, 1, 160-168.

Nguyen, H. Q., Wang, X. (2016). Wavelet Based Pseudo Quantum Steganography within Pseudo Color Barcode. WSEAS Transactions on Signal Processing.

CONFERENCES & PRESENTATIONS

International Conference on Mechatronics Engineering and Computer Sciences 2018, *Contributed Talk.* Stock Forecasting Using M-Band Wavelet Based SVR and RNN-LSTMs Models. Shenyang, China.

Western Research Day 2018. *Poster Sess.* Price Optimization on Nonlinear Demand Functions. Danbury, CT.

Joint Mathematics Meeting 2018, *Oral Presentation & Poster Session.* Stock Forecasting Using M-Band Wavelet Based Machine Learning Methods. San Diego, CA.

Second Paris-Asia Conference in Quantitative Finance 2017, *Poster Session.* Stock Forecasting Based on Wavelet Transformation. Suzhou, China.

Joint Mathematics Meeting 2017,*Oral Presentation & Poster Session.* M-Band Wavelet Based Machine Learning Algorithms for Financial Data. Atlanta, CA.

Joint Mathematics Meeting 2016, *Oral Presentation & Poster Session.* Pseudo Color Barcode based on Pseudo Quantum Signal in M-band Wavelet Domain. Seattle, WA. **Outstanding Presenters Award**.

AWARDS

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, The Interdisciplinary Contest in Modelling 2017.

Outstanding Presenters Award, Joint Mathematics Meeting 2016.