HIEU Q. NGUYEN

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SUMMARY: A highly motivated Computer Science Ph.D. candidate with comprehensive computer science implementation and mathematical modelling skills and in-depth knowledge in Deep Machine Learning including Neural Language Processing, Recurrent Neural Network, Convolutional Neural Network, Time Series Analysis and advance Signal Processing Wavelets Transform; seeking an internship as a Quantitative Researcher or related position where these skills and knowledge will add greater value.

QUALIFICATIONS

Experience/interests	Machine Learning, Statistical Analysis, Time Series Forecasting
Languages and Platforms	Python, Matlab, R, Pytorch, Keras, Tensorflow, Bash scripting, SQL
Software & Tools	MS Office, Minitab, LATEX, Linux

EXPERIENCE

RESEARCH ASSISTANT

Topic: Stock Forecasting *University of Connecticut* *August 2019 - present*

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

Topic: Computer Vision *Michigan State University* *August 2018 - August 2019*

- Research on computer vision tasks include object detection and image super-resolution using Generative Adversarial Network(GAN) and Deep Convolutional Neural Network (DCNN).
- Collect and pre-process low resolution data using M-Band Wavelet method.

Topics: Price Optimization, Stock Forecasting, Stenography

Western Connecticut State University *May 2015 - May 2018*

- Utilizing pricing data of comparative goods, the project aims to model the demand functions to maximize profit for both manufacturers and retailers. Use of Lagrange Multipliers on the non-linear demand functions.
- Denoising history stock data using wavelet transformation and predict future stock price using support vector machine and LSTM models.
- Use wavelet to breakdown images frequency signals and embed secret information into the approximation portion using pseudo quantum encryption method.

TEACHING

- **Adjunct Professor** at Western Connecticut State University *August 2020 - December 2020*
- **Lab Instructor** at University of Connecticut *August 2020 - December 2020*
- **Research Mentor** at Polygence *Summer 2020*
- **Teaching Assistant** at Michigan State University *August 2018 - August 2019*
- **Math Tutor** at Western Connecticut State University *October 2014 - May 2018*

RESEARCH INTERNSHIP

RabbitPre Intelligent Technology *Summer 2018*

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

Wuxi Susheng Metal Products Co Ltd *Summer 2017*

- Implement object recognition and classification deep learning method to eliminate poor quality products during the assembly process.

EDUCATION

University of Connecticut — *August 2019 - present*
Ph.D. Candidate in Computer Science. — Overall GPA: 4.10/4.30
Michigan State University — *August 2018 - transfer*
Ph.D. Candidate in Computer Science.
Western Connecticut State University — *August 2014 - May 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 — Stochastic Processes — Numerical Analysis — Wavelet and Tensor Decomposition.
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**.