Huyen N. Nguyen

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SUMMARY

I am a third-year Ph.D. student in Computer Science at Texas Tech University, advised by Dr. Tommy Dang in the Interactive Data Visualization Lab. Across the vast range of interactive data, my research interests include **data visualization and analysis**, **visual analytics**, **HCI**, and **computer vision**. I study interactive visualization techniques and applications that enhance the understanding of large-scale data, including quantitative and qualitative data.

EDUCATION

Texas Tech University, 2018 – present
Ph.D. Student, Computer Science
Area: Data visualization and Visual analytics

Hanoi University of Science and Technology, 2018
B.S. in Information Systems, 5-year Engineer Program
Thesis: Multi-label Image Classification on a Real-life Photo Gallery with Deep Learning

SKILLS

Programming: JavaScript, Python, C++, Java, R, ReactJS, Answer Set Programming (ASP), D3js, OpenCV, TensorFlow

Software: Tableau, Dedoose, MATLAB

Research-related: Proposal writing, Interviewing, Conducting user studies

FUNDED GRANT

NASA, administered by Gordon Research Conferences: Visionary Research Grant, Visualizing Qualitative Data for Science and Education, $10,000, with Caleb M. Trujillo, University of Washington Bothell; Kathleen Jeffery, University of New Hampshire and Kevin Wee, Purdue University.

HONORS AND AWARDS

VAST Challenge, Honorable Mention for Detailed Analysis of Patterns of Misclassification: 2020 [demo]
Gelin Graduate Scholarship: 2020
Texas Tech University Whitacre College of Engineering DesigENGR Scholarship: 2018 and 2019
Hanoi University of Science and Technology Scholarship, for excellence in academic performance: 2016
Temasek Foundation Singapore Full Scholarship, Specialists' Community Action & Leadership Exchange: 2015
Vietnam National Physics Olympiad, Honorable Mention: 2013
Odon Vallet Scholarship, Rencontres du Vietnam, for outstanding academic performance: 2012
Hung Vuong Olympiad, Gold medals in Physics: 2011 and 2012

PUBLICATIONS

2020

10. **Nguyen, H. N.**, Gonzalez, J., Guo, J., Nguyen, N. V.T., and Dang, T. (2020). VisMCA: A Visual Analytics System for Misclassification Correction and Analysis. VAST 2020 Mini-Challenge 2 Award: Honorable Mention for Detailed Analysis of Patterns of Misclassification. *IEEE Conference on Visual Analytics Science and Technology (VAST) (To Appear).*

9. **Nguyen, H. N.**, Nguyen, V.T., and Dang, T. (2020). Interface Design for HCI Classroom: From learners' perspective. *International Symposium on Visual Computing (To Appear).*

8. Dang, T., Pham, V., **Nguyen, H. N.**, and Nguyen, N. V. (2020). AgasedViz: Visualizing Groundwater Availability of Ogallala Aquifer, USA. *Environmental Earth Sciences*, 79(5), 1-12. doi: 10.1007/s12665-020-8851-6.

7. Dang, T., Van, H., **Nguyen, H. N.**, Pham, V., and Hewett, R. (2020). DeepVix: Explaining Long Short-Term Memory Network with High Dimensional Time Series Data. *Proceedings of the 11th International Conference on Advances in Information Technology (IAIT2020)*, 1-10. doi: 10.1145/3406601.3406643.

2019

6. Dang, T., **Nguyen, H. N.**, and Pham, V. (2019). WordStream: Interactive Visualization for Topic Evolution. In Johansson, J.,Sadlo, F., and Marai, G. E., editors, *EuroVis 2019 - Short Papers*. The Eurographics Association. doi: 10.2312/evs.20191178.

5. **Nguyen, H. N**. and Dang, T. (2019). EQSA: Earthquake Situational Analytics from Social Media, *IEEE Conference on Visual Analytics Science and Technology (VAST),* Vancouver, BC, Canada, 142-143. doi: 10.1109/VAST47406.2019.8986947.

4. Le, D., Pham, V., **Nguyen, H. N.**, and Dang, T. (2019). Visualization and Explainable Machine Learning for Efficient Manufacturing and System Operations. *Smart and Sustainable Manufacturing Systems*, 3(2), 127-147. doi: 10.1520/SSMS20190029.

3. Van, H., **Nguyen, H. N.**, Hewett, R., and Dang, T. (2019). HackerNets: Visualizing Media Conversations on Internet of Things, Big Data, and Cybersecurity. *BigEACPS at IEEE International Conference on Big Data (Big Data)*, 3293-3302. doi: 10.1109/BigData47090.2019.9006417.

2018

2. **Nguyen, H. N.**, Nguyen, V. T., Nguyen, N. V., Pham, V., and Dang, T. (2018). IotNegViz: An interactive tool for visualizing negative aspects of IoT. *BigEACPS at IEEE International Conference on Big Data (BigData)*, 4565–4568. doi: 10.1109/BigData.2018.8621984.

1. Nguyen, M. T., **Nguyen, H. N.**, and Teague, K. A. (2018). Wavelet-based Energy Efficient Data Collection Algorithm in Wireless Sensor Networks. *ICSES Transactions on Computer Networks and Communications (ITCNC)*, 4(2), 3-10.

WORK EXPERIENCE

Teaching Assistant, Texas Tech University 09/2019 – 12/2019
Department of Computer Science

- Assistant to Professor Yuanlin Zhang in graduate/undergraduate courses: Intelligent Systems/Introduction to Artificial Intelligent, Logic for Computer Scientists.
- Assistant to Professor Md Ariful Islam in undergraduate course Software Engineering II.
- Graded all written work, including assignments, final exam papers and programming source codes.
- Met with students upon request to help with coursework materials and assignment inquiries.

Research Assistant, Texas Tech University 09/2018 – 06/2019
Interactive Data Visualization Lab

- Developed web-based interactive visualization for large-scale structured and unstructured data, including qualitative and quantitative data, mainly with D3js library for visualization and python for data processing.
- Analyzed data, discovered insights and enhancing understanding of data with visualization and visual analytics.
- Collaborated with domain experts: Soil scientists, visualizers in education, field technician supervisors and political science experts, for conducting case studies and model evaluation in practice.

Research Student Assistant, Hanoi University of Science and Technology 10/2015 – 06/2018
Data Science Lab, Hanoi, Vietnam

- Studied on research about machine learning models: Techniques and applications.
- Evaluated different models for solving computer vision problems.
- Implemented Convolutional Neural Networks for object detection task with TensorFlow library.

Intern, VC Corp 06/2016 – 08/2016

Vietnam Communications Corporation, Hanoi, Vietnam

- Learned Hadoop and Apache Spark processing frameworks to perform big data-related tasks.
- Assisted in research for the anomaly detection project.
- Implemented MapReduce framework to solve the file storage issues using Maven project in Java.

POSTER PRESENTATIONS

1. **Nguyen, H.** and Dang, T., (2019). WordStream: An Interactive Visualization for Topic Evolution. Poster presented at the Visualization in Science and Education, Gordon Research Conference. Lewiston, ME.
2. **Nguyen, H.** and Dang, T., (2019). Interactive Visualization for Earthquake Analytics from Social Media Data. Poster presented at the Scientific Computing meets Machine Learning and Life Sciences Workshop, Texas Tech University, Lubbock, TX.

TALKS

1. **Nguyen, H.** (2020). Data Visualization and Applications. Talk presented at Advanced Wireless Communication Networks (AWCN) Laboratory, Thai Nguyen University of Technology, Thai Nguyen, Vietnam.
2. Dang, T. and **Nguyen, H**. (2019). Visual analytics and Virtual Reality. Talk presented at The Cognition & Cognitive Neuroscience area of Experimental Psychology, Department of Psychological Sciences, Texas Tech University, Lubbock, TX.

CERTIFICATES

1. **International Teaching Assistant**, Texas Tech University, by The ITA Workshop, Summer 2019.
2. **Human Subject Training**: TTU Social and Behavioral Research, by Human Research Protection Program, Texas Tech University, 2019.
3. **Certificate of Achievement**, by Committee on Ethnic Minority Affairs, Vietnam, for outstanding achievement in National Olympiad and University Entrance Examination, 2013.