

# HUYEN N. NGUYEN

PhD Student in Computer Science

Texas Tech University

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## RESEARCH INTERESTS

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Interactive visualization methods and applications that support visual analytics and data analysis on large scale data, including quantitative and qualitative data, supporting various domains such as text visualization, classification and object detection.

## EDUCATION

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**Texas Tech University**, Lubbock, Texas, USA

09/2018 - present

PhD Student in Computer Science

Interactive Data Visualization Lab

**Hanoi University of Science and Technology**, Hanoi, Vietnam

2013 - 2018

Bachelor in Information Systems, 5-year Engineering Program

Thesis title: Multi-label classification on a real-life photo gallery based on Deep Learning

## PUBLICATIONS

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- **Huyen N. Nguyen** and Tommy Dang. “EQSA: Earthquake Situational Analytics from Social Media,” In 2019 IEEE Conference on Visual Analytics Science and Technology (VAST), pp. 142-143. IEEE, 2019. <https://doi.org/10.1109/VAST47406.2019.8986947>.
- **Huyen N. Nguyen**, Vinh T. Nguyen, Ngan V.T. Nguyen, Vung Pham and Tommy Dang. “IoTNegViz: An interactive tool for visualizing negative aspects of IoT,” In 2018 IEEE International Conference on Big Data (Big Data), pp. 4565-4568. 2018. <https://doi.org/10.1109/BigData.2018.8621984>.
- Tommy Dang, Vung Pham, **Huyen N. Nguyen**, and Ngan V.T. Nguyen. “AgasedViz: visualizing groundwater availability of Ogallala Aquifer, USA,” Environmental Earth Sciences 79, no. 5. pp. 1-12. 2020, <https://doi.org/10.1007/s12665-020-8851-6>.
- Tommy Dang, Hao Van, **Huyen N. Nguyen**, Vung Pham, and Rattikorn Hewett. “DeepVix: Explaining Long Short-Term Memory Network With High Dimensional Time Series Data.” In Proceedings of the 11th International Conference on Advances in Information Technology, pp. 1-10. 2020. <https://doi.org/10.1145/3406601.3406643>.
- Tommy Dang, **Huyen N. Nguyen**, and Vung Pham. “WordStream: Interactive Visualization for Topic Evolution.” In J. Johansson, F. Sadlo, and G. E. Marai, eds., EuroVis 2019 - Short Papers. The Eurographics Association, 2019. <https://doi.org/10.2312/evs.20191178>.
- Hao Van, **Huyen N. Nguyen**, Rattikorn Hewett, and Tommy Dang, “HackerNets: Visualizing Media Conversations on Internet of Things, Big Data, and Cybersecurity,” In 2019 IEEE International Conference on Big Data (Big Data), pp. 3293-3302. IEEE, 2019. <https://doi.org/10.1109/BigData47090.2019.9006417>.
- Dy Le, Vung Pham, **Huyen N. Nguyen**, and Tommy Dang, “Visualization and Explainable Machine Learning for Efficient Manufacturing and System Operations,” Journal of Smart and Sustainable Manufacturing Systems 3, no. 2. 2019. 127-147. <https://doi.org/10.1520/SSMS20190029>.

- Minh T. Nguyen, **Huyen Nguyen**, Keith Teague. “Wavelet-based Energy Efficient Data Collection Algorithm in Wireless Sensor Networks,” ICSES Transactions on Computer Networks and Communications (ITCNC), vol. 4, no. 2, pp. 3-10, Jun. 2018.

## FUNDED GRANTS

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**Visionary Grant** on *Visualizing Qualitative Data for Science and Education*, Gordon Research Conference on Visualization in Science and Education, 2019, supported by NASA, to characterize current trends and explore potential methods in qualitative data visualization (\$10,000).

## EXPERIENCE

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### Teaching Assistant

09/2019 - 12/2019

*Department of Computer Science, Texas Tech University, USA*

- Supported professors in graduate and undergraduate courses: Intelligent System, Logic for Computer Scientists, and Software Engineering II.
- Graded students’ assignments, tests and programming source codes.
- Helped students in understanding coursework materials.

### Research Assistant

09/2018 - 09/2019

*Interactive Data Visualization Lab, Texas Tech University, USA*

- Developed web-based visualization for large structured data using d3js library. Language: Javascript.
- Explored and analyze patterns from visualization to discover insights and underlying models.
- Collaborated with domain experts: Soil scientists, field technician supervisors and political science experts, for building models and case studies.

### Research Student Assistant

10/2015 - 06/2018

*Data Science Lab, Hanoi University of Science and Technology, Vietnam*

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

### Intern

06/2016 - 08/2016

*Vietnam Communications Corporation - VC Corp, Vietnam*

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

## AWARDS AND ACHIEVEMENTS

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**Honorable Mention, VAST Challenge 2020**, *Detailed Analysis of Patterns of Misclassification on Mini-challenge 2*, IEEE Visual Analytics Science and Technology, 2020.

**Visionary Grants Award**, *Gordon Research Conference – Visionary Grants Competition*, Visualization in Science and Education, Lewiston, Maine, 2019.

**International Teaching Assistant Certificate**, *Texas Tech University*, completed The ITA Workshop in the summer of 2019.

**University Scholarship**, *Hanoi University of Science and Technology*, for students with excellent academic performance (top 5% class), 2016.

**Full Scholarship**, *Temasek Foundation, Singapore*, for top 20 students from Hanoi University of Science and Technology in the exchange program in Singapore, in Temasek Foundation Specialists' Community Action and Leadership Exchange (TFSCALE), 2015.

**Certificate of Achievement**, *Committee on Ethnic Minority Affairs, Vietnam*, for outstanding achievement in National Olympiad and University Entrance Examination, 2013.

**Honorable Mention**, *National Physics Olympiad*, for high school students (top 200 nationwide) and ranked 1st in Physics Olympiad for high school students in Thai Nguyen Province, Vietnam, 2012.

**Gold Medals, two times**, *Hung Vuong Olympiad*, for top students in the academic competition for best students from top high schools in the north of Vietnam, 2011 and 2012.

**Odon Vallet Scholarship**, *Rencontres du Vietnam*, for high school students in Vietnam with outstanding academic performance, 2012.

## ACTIVITIES

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**Reviewer**, ICSES Transactions on Computer Networks and Communications (ITCNC), 2020.

**Poster Presenter**, *Applying Topic Evolution Visualization into Educational Domain*, Gordon Research Conference on Visualization in Science and Education, 2019.

**Poster Presenter**, *Interactive Visualization for Earthquake Analytics from Social Media Data*, Workshop in Scientific Computing meets Machine Learning and Life Sciences, Texas Tech University, 2019.

## LANGUAGES

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English: International Teaching Assistant Program, completed in 2019

GRE 311, taken in 2018.

IELTS 7.0, taken in 2017.

Vietnamese: Mother tongue.