Viet Quoc Duong

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EDUCATION

COLLEGE OF WILLIAM & MARY   **WILLIAMSBURG, VA**
Doctor of Philosophy in Computer Science   *January 2022 - Present*
- Advisor: Huajie Shao, Ph.D.
- Cumulative GPA: 3.83/4.0
- Research Concentrations: Deep Learning, Anomaly Detection, Explainable Artificial Intelligence.
- Relevant Coursework: Deep Representation Learning, Machine Learning Systems, Analysis of Algorithms, Data Analysis and Simulation, Compiler and Parallel Computing, Data Visualization.

UNIVERSITY OF ROCHESTER   **ROCHESTER, NY**
Master of Science in Computer Science   *August 2018 - August 2021*
- Advisor: Lenhart Schubert, Ph.D.
- Concentration: Artificial Intelligence and Computational Linguistics.
- Thesis: Towards Schema-based Knowledge Extraction from Social Media Texts through Semantic Parsing.
- Tuition Award recipient, all eligible semesters.
- Relevant Coursework: Logical Foundation of Artificial Intelligence, Machine Learning, Natural Language Understanding, Statistical Speech and Language Processing, Formal Semantics, Advanced Algorithms, Markov Chain and Random Processes.

Bachelor of Arts in Data Science   *September 2014 - May 2018*
Bachelor of Science in Mathematics
- Awarded Distinction in both majors.
- Minor in Financial Economics.
- Dean's Scholarship recipient, all eligible semesters.
- Projects: Time-series Analysis on Paychex, Inc. Sales Data (Sponsored by Paychex, Inc.), Applications of the Autoregressive Conditional Model on NASDAQ Intraday Database.

TEACHING EXPERIENCE

COLLEGE OF WILLIAM & MARY   **WILLIAMSBURG, VA**
Teaching Assistant, Department of Computer Science   *January 2022 - Present*
- CSCI-241 Data Structures
- CSCI-301 Software Development

UNIVERSITY OF ROCHESTER   **ROCHESTER, NY**
Teaching Assistant, Department of Computer Science   *August 2016 - December 2017*
- CSC-172 Data Structures and Algorithms

PROFESSIONAL EXPERIENCE

UNIVERSITY OF ROCHESTER   **ROCHESTER, NY**
Graduate Research Assistant at Artificial Intelligence Research Lab,   *August 2018 - December 2021*
Department of Computer Science
- Contributed to the design of unscoped logical forms, a novel meaning representation of language, by expanding the existing English language learning corpora and annotation schemas to cover new linguistic phenomena.
- Established high-fidelity semantic parsing systems based on unscoped logical forms, allowing for the full expressivity of natural language and human-logic-like inference.
- Developed scalable language inference engines for unscoped logical forms, integrating deductive and probabilistic inference mechanisms for both general and domain-specific natural language understanding.
- Investigated a wide spectrum of semantic parsing technologies, ranging from rule-based syntactic reasoning systems to neural semantic parsers using state-of-the-art deep neural networks for sequence-to-sequence and sequence-to-graph modeling.
- Published several research papers in artificial intelligence and computational linguistics international conferences.

Research Assistant at Visual Intelligence and Social Multimedia Analytics Lab,   *September 2017 - December 2021*
Department of Computer Science
- Collected data from social networks and conducted research studies on trending social phenomena such as sexual harassment in college, the impacts of the COVID-19 pandemic on the general public and college students, and public opinions on COVID-19 vaccines.
- Published several research papers in social network mining and medical science international conferences.

SIMON BUSINESS SCHOOL   **ROCHESTER, NY**
Research Assistant   *June 2017 - December 2017*
- Curated data on the European capital market after the Industrial Revolution by analyzing stock advertisements and quotes in 19th-century British newspapers.
- Contributed to the development of a transactional database of European stocks, as part of a doctoral research project studying the rise of the manufacturing sector in the European post-industrial economy.

Research Assistant   *September 2016 - October 2016*
- Gathered and processed datasets containing econometric, educational, and employment information of business professionals, as part of a doctoral research project studying the impact of rehiring former executives on the profitability of financial firms.

PAPERS AND PRESENTATIONS

Publications

Lyu, H., Wu, W., Wang, J., Duong, V., Zhang, X., & Luo, J. (2021). Social Media Study of Public Opinions on Potential COVID-19 Vaccines: Informing Dissent, Disparities, and Dissemination. Intelligent medicine (2021).

Kim, G. L., Duong, V., Lu, X., and Schubert, L. (2021). A Transition-based Parser for Unscoped Episodic Logical Forms. In Proceedings of the 14th International Conference on Computational Semantics (IWCS 2021).

Kim, G., Juvekar, M., Ekmekciu, J., Duong, V., and Schubert, L (2021). A (Mostly) Symbolic System for Monotonic Inference with Unscoped Episodic Logical Forms. In Proceedings of the 1st and 2nd Workshops on Natural Logic Meets Machine Learning (NALOMA 2021).

Duong, V., Pham, P., Yang, T., Wang, Y., & Luo, J. (2020). The Ivory Tower Lost: How College Students Respond Differently than the General Public to the COVID-19 Pandemic. In Proceedings of the 2020 IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining (ASONAM 2020).

Kim, G., Kane, B., Duong, V., Mendiratta, M., McGuire, G., Sackstein, S., Platonov, G., and Schubert, L. (2019, August). Generating discourse inferences from unscoped episodic logical formulas. In Proceedings of the First International Workshop on Designing Meaning Representations (DMR 2019).

Workshop Presentations

Duong, V., Pham, P., Bose, R., & Luo, J. (2020). # MeToo on Campus: Studying College Sexual Assault at Scale Using Data Reported on Social Media. Presented at the Workshops for 12th International AAAI Conference on Web and Social Media (ICWSM-18). arXiv preprint arXiv:2001.05970.

SKILLS AND QUALIFICATIONS

Certificates
Deep Learning,   *April 2020*
DeepLearning.AI, Coursera
- **Coursework:** Neural Networks and Deep Learning, Improving Deep Neural Networks, Structuring Machine Learning Projects, Convolutional Neural Networks, Sequence Models.

Skills
- **Languages:** Python, C/C++, CUDA, Java, R, Common Lisp.
- **Data Collection:** Google Cloud Storage API, Rest API.
- **Machine Learning Frameworks:** PyTorch, Huggingface, Tensorflow, Keras, scikit-learn.
- **Other Tools:** Microsoft Office, Jupyter, LaTeX, Git.