Viet Quoc Duong

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EDUCATION

UNIVERSITY OF ROCHESTER **ROCHESTER, NY**

Master of Science in Computer Science *August 2018 - August 2021*

- Advisor: Lenhart Schubert
- Cumulative GPA: 3.56/4.00
- Concentration on Artificial Intelligence and Computational Linguistics
- Thesis: Towards Schema-based Knowledge Extraction from Social Media Texts through Semantic Parsing.
- 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

- Minor in Financial Economics.
- Awarded Distinction in both majors.
- Data Science Major GPA: 3.54, Mathematics Major GPA: 3.41
- Dean's Scholarship Recipient, all eligible semesters.
- Relevant Coursework: Data Mining, Artificial Intelligence, Data Structures, Algorithm Design, and Efficiency Analysis, Mathematical Statistics, Computational Statistics, Applied Econometrics, Real Analysis, and Linear Algebra with Differential Equation.
- Projects: Time-series Analysis on Paychex, Inc. Sales Data (Sponsored by Paychex, Inc.), Applications of the Autoregressive Conditional Condition Model on NASDAQ Intraday Database.
- Extracurricular Activities: Data Science Undergraduate Council, Society of Undergraduate Math Students, and Intramural Soccer League.

TEACHING EXPERIENCE

UNIVERSITY OF ROCHESTER **ROCHESTER, NY**

Teaching Assistant, Department of Computer Science *August 2016 - December 2017*

- Assisted instructor with the supervision of weekly laboratory sessions.
- Wrote evaluation scripts and marked grades for Java and data structure programming assignments.
- Helped students refine programming techniques, computational reasoning, and problem-solving skills.

PROFESSIONAL HISTORY

UNIVERSITY OF ROCHESTER **ROCHESTER, NY**

Graduate Research Assistant in Artificial Intelligence and Computational Linguistics, *August 2018 - Present*
Department of Computer Science

- Contributed to the design of unscoped logical forms, a novel meaning representation of language, by expanding the existing gold annotation database and extending annotation schemas to cover new linguistic phenomena.
- Developed high-fidelity semantic parsing systems, allowing for the full expressivity of natural language and natural-logic-like inference based on unscoped logical forms.
- Experimented with a variety of semantic parsing technologies, ranging from rule-based transducers from syntactic dependency structures to transition-based Abstract Meaning Representation (AMR) parsers using state-of-the-art sequence-to-sequence learning neural networks.
- Constructed implementations of scalable language inference engines for unscoped logical forms, integrating general deductive, probabilistic, and specialized inference mechanisms.
- Presented up-to-date publications relevant to the ongoing research topics in the weekly reading group.

Research Assistant at Visual Intelligence and Social Multimedia Analytics Lab, Department of Computer Science *September 2017 - Present*

- Collected and analyzed data obtained from social networks for researching various social phenomena such as sexual harassment in college, the social impacts of the COVID-19 pandemic, and public opinions on COVID-19 vaccines.
- Attended weekly research meetings to report research progress, present papers, and discuss related works in Social Media and Artificial Intelligence research.

SIMON BUSINESS SCHOOL **ROCHESTER, NY**

Research Assistant *June 2017 - December 2017*

- Extracted 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, pertaining to a research project studying the rise of the manufacturing sector in the European post-industrial economy.

Research Assistant *September 2016 - October 2016*

- Browsed social networks and corporate websites to obtain econometric, educational, and employment data of business professionals as part of a Ph.D. doctoral research project studying the impact of rehiring former executives on firm performance.
- Created datasets in Excel to accommodate financial modeling.

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

- **Programming Languages:** Python, Common Lisp, Java, R, SQL, STATA.
- **Data Collection:** Twitter API, Reddit API.
- **Data Analysis:** PyTorch, Tensorflow, Keras, Numpy, Pandas, Scikit-learn, Matplotlib.
- **Tools:** Microsoft Office, Jupyter, LaTeX, Git.