GEORGE STOICA

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EDUCATION

Georgia Institute of Technology **Aug 2021 - May 2026 (Expected)**
Doctor of Philosophy in Machine Learning
Advised by Professor Judy Hoffman | GPA: 3.92

Carnegie Mellon University **Aug 2015 - May 2019**
Bachelor of Science in Statistics and Machine Learning
QPA: 3.68 (Final 2 Years: 3.93)
University Honors | School of Computer Science College Honors | Dean's List with High Honors | Dean's List

LONG PAPERS

ZipIt! Merging Models from Different Tasks without Training **ICLR 2024**
George Stoica*, Daniel Bolya*, Jakob Bjorner, Pratik Ramesh, Taylor Hearn, Judy Hoffman

Re-TACRED: Addressing Shortcomings of the TACRED Dataset **AAAI 2021**
George Stoica, Emmanouil Antonios Platanios, Barnabás Póczos

Improving Relation Extraction by Leveraging Knowledge Graph Link Prediction **arXiv 2020**
George Stoica, Emmanouil Antonios Platanios, Barnabás Póczos

Contextual Parameter Generation for Knowledge Graph Link Prediction **AAAI 2020**
George Stoica*, Otilia Stretcu*, Emmanouil Antonios Platanios*, Tom Mitchell, Barnabás Póczos

SHORT PAPERS

ZipIt!: Multitask Model Merging without Training **NeurIPS UniReps 2023 (Oral)**
George Stoica*, Daniel Bolya*, Jakob Bjorner, Pratik Ramesh, Taylor Hearn, Judy Hoffman

Bi-Directional Self-Attention for Vision Transformers **NeurIPS VTTA 2022 (Best Paper Award)**
George Stoica, Taylor Hearn, Bhavika Devnani, Judy Hoffman

Re-TACRED: A New Relation Extraction Dataset **NeurIPS KR2ML 2020**
George Stoica, Emmanouil Antonios Platanios, Barnabás Póczos

Knowledge Graph Enhanced Relation Extraction **NeurIPS KR2ML 2020**
George Stoica, Emmanouil Antonios Platanios, Barnabás Póczos

Contextual Parameter Generation for Knowledge Graph Link Prediction **NeurIPS GRL 2019**
George Stoica*, Otilia Stretcu*, Emmanouil Antonios Platanios*, Tom Mitchell, Barnabás Póczos

FELLOWSHIPS

National Science Foundation **Aug 2023 - Present**
Graduate Research Fellowship

INVITED TALKS

Bio-NLP Lab Seminar, University of Massachusetts Amherst **2022**
Improving Relation Extraction by Leveraging Knowledge Graph Link Prediction

REVIEWS

NIVT-ICCV **2023**

ACL-IJCNLP **2021**

RESEARCH EXPERIENCE

NSF Graduate Research Fellow, **Georgia Institute of Technology,** Atlanta, GA **Aug 2023 - Present**
Researching how to cheaply and effectively integrate information captured by very large models trained on diverse tasks together into one model capable of solving new problems. Work lies at the intersection of multi-task/modal reasoning and model merging. Advised by Professor Judy Hoffman.

Graduate Research Assistant, **Georgia Institute of Technology,** Atlanta, GA **Aug 2021 - Aug 2023**
Explored methods for fusing models for better performances on downstream tasks. Designed modules at the intersection of convolutional filters and self-attention to improve vision models across a variety of tasks. Explored compositional few-shot learning by composing between automatically extracted specific and generic features. Advised by Professor Judy Hoffman.

Research Assistant, **CMU Machine Learning Department,** Pittsburgh, PA **Aug 2019 - Jan 2021**
Built end-to-end video anomaly detection and natural language explanation models. Proposed a new relation extraction dataset for future benchmarking. Enhanced relation extraction model performance through cyclical ties to link prediction. Advised by Professor Barnabás Póczos.

Honors Thesis, **CMU School of Computer Science,** Pittsburgh, PA **Mar 2018 - May 2019**
Proposed a relation dependent approach to knowledge graph link prediction. Approach improved state-of-the-art by up to 5.1%, with training time gains of up to 28x. Advised by Professors Barnabás Póczos and Tom Mitchell, and collaborated with Dr. Anthony Platanios and Dr. Otilia Stretcu.

WORK EXPERIENCE

Machine Learning Researcher, **Inokyo,** San Francisco, CA **May 2019 - Aug 2019**
Developed and demonstrated Inokyo's first end-to-end solution to item detection, tracking, and customer association for autonomous checkout in stores. Contributions under process of provisional patents.

Data Science Intern, **Palo Alto Networks (PAN)**, Santa Clara, CA **May 2018 - Aug 2018**
Applied several classification and statistical methodologies to improve PAN's sales representative churn prediction model. Implemented sampling extensions to several frequently used classifiers in industry to increase model performance on PAN's heavily skewed class data distributions.

Engineering Intern, **Conviva,** Foster City, CA **May 2017 - Jul 2017**
Utilized statistical methodologies and Apache Spark to analyze Conviva's large scale video streaming datasets (10s of billions of views), and designed several production metrics to improve customer insights on products.

Data Science Intern, **Upwork,** Mountain View, CA **May 2016 - Jul 2016**
Designed a freelancer hire prediction model using Active Learning on Upwork's large freelancer marketplace datasets. Mitigated learning on very skewed data.

TEACHING EXPERIENCE

Graduate Teaching Assistant, **Introduction to Computer Vision**, Atlanta, GA **Jan 2023 - May 2023**
Prepared homework and exam problems. The course is an introduction to computer vision and is designed for undergraduate students. ~180 total students.

Teaching Assistant, **Introduction to Machine Learning (PhD)**, Pittsburgh, PA **Jan 2018 - May 2018**
Prepared materials and assisted teaching. The course is a general introduction to machine learning methodologies and is designed for graduate students. ~ 200 total students.

ACTIVITIES

President & Co-Founder, **CMU Data Science Club**, Pittsburgh, PA **Nov 2016 - Nov 2017**
Organized corporate talks, workshops and datathons for over 200 club members. Represented club and presided over all club meetings and university functions.

SKILLS

Python | Tensorflow | Pytorch |Apache Spark | Scikit-Learn | Numpy | Pandas | R | Scala | C | Github

FOREIGN LANGUAGES

Romanian (fluent) | French (beginner)