NICHOLAS PETOSA

(631) 759-6146
https://linkedin.com/in/petosa • nick.petosa@gmail.com
https://devpost.com/petosa • https://github.com/petosa

EDUCATION

AUG 2018 – DEC 2019	**Georgia Institute of Technology – M.S. in Computer Science**
	• Specialization in Machine Learning.
2015 – 2018	**Georgia Institute of Technology – B.S. in Computer Science –** *GPA: 4.0/4.0*
	• Concentrations in Artificial Intelligence and System Architecture.

EXPERIENCE

SUMMER 2018 **Microsoft – Software Engineer Intern –** *PowerBI Advanced Analytics*
- **Deep Learning & Natural Language Generation.** Designed and trained a deep LSTM network using Keras and Tensorflow to summarize PowerBI data visuals in plain English. The network uses just the underlying raw visual data as input and leverages an LSTM encoder-decoder to represent data series of arbitrary length and dimensionality as a fixed-size embedding. Achieves 95% accuracy on unseen synthetic data and generalizes well to unlabeled real-world time series.

SUMMER 2017 **Amazon – Software Development Engineer Intern –** *Customer Account Protection*
- **Machine Learning.** Integrated a random forest classifier into Amazon's production sign-in systems, which handles millions of sign-ins per day. The model predicts whether clusters of customers are malicious and suggests disciplinary action to Amazon fraud investigators. Used scikit-learn and Weka.
- **Data Visualization.** Created interactive suspicious account cluster visualizer using d3.js. Integrated internally into dashboard used by hundreds of Amazon fraud investigators.

SUMMER 2016 **Cisco – Software Engineering Intern –** *Global Support Experience*
- **Data Science.** Created an internal web app using R and Shiny for measuring partner performance. Cisco executives estimated the tool would save $150k per quarter.
- **Web Development.** Redesigned a service wrapper with high visibility within Cisco with Java Spring.

RESEARCH

JAN 2018 - PRESENT **Graduate Research Assistant – Georgia Tech –** *Quantitative Software Research Group*
- Research the application of deep learning techniques to quantitative finance under Dr. Tucker Balch.
- Implemented a deep Q-learning trading agent in Python using Keras and Zipline, as well as a deep supervised time series classifier using Keras. Currently investigating techniques for exotic time series classification, deep unsupervised dimensionality reduction, and anomaly detection.

AUG 2016 - AUG 2017 **Undergraduate Research Assistant – Georgia Tech –** *Sherrill Group*
- Designed, developed, and implemented a Python Flask service and MongoDB back-end for PSI4, a popular quantum chemistry research package. *Published undergraduate thesis on this research.*

MAR 2016 - MAR 2017 **Undergraduate Research Assistant – Georgia Tech –** *Contextual Computing Group*
- Researched accessibility technology for the hearing impaired and created software tools and applications for the deaf. Built a cross-platform mobile app with Ionic which reads text from pictures and converts it to sign language.

ADDITIONAL EXPERIENCE

AUG 2018 - PRESENT **Graduate Teaching Assistant – Georgia Tech –** *CS 4646: Machine Learning for Trading*
- Will be grading assignments, answering questions, and holding regular office hours for the course.

SPRING 2017 **Google CodeU Participant**
- A Google invite-only program. Worked remotely with a small group of peers to create a messenger web app over the 12-week program. Participated in regular code reviews with a Google engineer.

AWARDS

FINRA Data Analysis Prize (HackGT Hackathon 2017) • First Place (Coca-Cola CoolerHacks Hackathon 2016) • Firebase Prize (MHacks: Refactor Hackathon 2016) • First Place (SwampHacks Hackathon 2016) • Yik Yak Prize (HackDuke Hackathon 2015)

SKILLS

Programming Languages – Python, Java, JavaScript, C
Tools & Platforms – Keras, TensorFlow, CNTK, d3.js, Zipline, scikit-learn, Flask, MongoDB, Git
Areas of Interest – Quantitative Finance, Deep Learning, Machine Learning, Artificial Intelligence, Data Visualization