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| NICHOLAS PETOSA | | **(631) 759-6146** |
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| <https://devpost.com/petosa> **•** <https://github.com/petosa> |
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| EDUCATION | | |
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| 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 | | |
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| 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 the underlying 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 | | |
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| 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 – *Quantitative Software Research 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 | | |
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| 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 | | |
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| [**FINRA Data Analysis Prize (HackGT Hackathon 2017)**](https://devpost.com/software/datadome-jinc1t) **•** [**First Place (Coca-Cola CoolerHacks Hackathon 2016)**](https://devpost.com/software/arkimedes)  **•** [**Firebase Prize (MHacks: Refactor Hackathon 2016)**](https://devpost.com/software/keller) **•** [**First Place (SwampHacks Hackathon 2016)**](https://devpost.com/software/iris-mvcs0i) **•** [**Yik Yak Prize (HackDuke Hackathon 2015)**](https://devpost.com/software/crowdnine) | | |
| SKILLS | | |
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| **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 | | |