Jack Kenney

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Summary

Passionate about efficiency, correctness, readability, testability, and intuitive design in software. Seeking a productive, challenging, and supportive work environment.

Skills

Theory	Machine Learning, Linear Algebra, Statistics, Calculus, Algorithms, Data Structures
Technical	Go, Python, MATLAB, JavaScript, Java, C/C++, SQL, NodeJS, Redux, React, git
Business	Agile Methodology, Teamwork, Leadership, Task Management, Teaching, Public Speaking
Arts	Ceramic Sculpture, Improvised Theater, Guitar, Bass, Djembe, Piano

Education

University of Massachusetts at Amherst

M.S. College of Information and Computer Sciences – *Bay State Fellow* May 2022

B.S. Computer Science, College of Information and Computer Sciences May 2019

Commonwealth Honors College, *Magna Cum Laude* *GPA: 3.904*

Work Experience

Engineering Development Group – The MathWorks, Inc. September 2019 – August 2020

Technical computing software company.

- Built Docker-based micro-services with Go to create efficient scalable cloud systems that afford load balancing to contribute to customer success. Highlights include concurrent programming, containerized workflows, and thorough unit and service-level integration testing.
- Contributed to the Statistics and Machine Learning MATLAB Toolbox optimizing graphing code for dendrogram chart. Improved user experience in Graphics and Charting Tools by modifying charting behavior in C++ source code.
- Provided technical support for the use of MATLAB to customers in a variety of research, scientific, and engineering domains.

Mobile Application Developer – UMass Amherst January 2019 – September 2019

Partnered with Disability Services and Facilities and Campus Services to create mobile application.

- Created accessible cross-platform mobile application using ReactNative to guide people around campuses using crowd-sourcing model and ArcGIS mapping.
- Team Awarded $10,000 at HackUMass V for Campus Accessibility Challenge November 2017

Research Assistant – Biologically Inspired Neural and Dynamical Systems Laboratory

Laboratory at the College of Information and Computer Sciences created to advance research in biologically-inspired computing and computational methods. October 2017 – September 2019

- Developed deep learning models with TensorFlow for regressing silicon wafer etch measurements with Lam Research Corporation. Prediction accuracy approached the sensitivity of the imaging equipment used for measurement. See publications section for details.

Software Development Intern – Optum, Inc. June 2017 – August 2017

Optum utilizes a massive amount of healthcare data to make insurance decisions and to identify areas where healthcare resources and initiatives would be most impactful.

- Initiated and developed an internal research document catalog and repository server. The system was successfully passed to a search team to incorporate into their data pipeline.

Publications

Jack Kenney, John Valcore, Scott Riggs, Edward Rietman: "Deep Learning Regression of VLSI Plasma Etch Metrology", 2019; [http://arxiv.org/abs/1910.10067] arXiv:1910.10067.

Public Projects

Reservoir Computer *python, numpy, networkx* github.com/jackkenney/reservoir-computer

Implementation of a reservoir computer with a small-world graph, echo state network architecture and leaky integrate-and-fire neurons for the task of sine wave synthesis given frequency and duration as static input. Resulted in high accuracy regression with minimal network size and training time.