Keegan Elliott

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PROFESSIONAL EXPERIENCE

RoboTire

Senior Software Engineer | Python, React.js, AWS, Docker, TCP/IP, WebSocket **2022 – Present**

- Designed and overhauled server infrastructure and messaging protocol between containerized services
  - Increased throughput of RoboTire system – and customer profitability – by over 40%
- Collaborated in fast-paced environment reaching across R&D, safety, management, and full software stack for full SDLC
- Evaluated potential suppliers and third-party hardware & software to assess potential API assimilation
- Orchestrated scrum-style team planning to coordinate the development of software features
- Mentored junior engineers from the interview process to the implementation of their own features

Software Engineer | Python, React.js, SQL, Docker, Redis **2021 – 2022**

- Developed patented algorithms for proprietary use in combining machine vision data and machine learning data
- Planned and implemented vision pipeline within microservice architecture from initial 3-D data capture and extraction to loading for regulation-compliant robot guidance via custom API
- Utilized unit tests and code analysis tools to verify expected memory usage and ensure maximum code coverage
- Documented and presented findings from recent testing, research, and development of various system features

U-M Computer Aided Engineering Network

Computer Operator **2017 – 2021**

- Mastered system features of proprietary AV software and hardware through independent research and testing
- Improved collaboration through applied technical communication skills in team environments
- Facilitated the education of new employees through live demonstrations & tutorials
- Fostered large-scale time management skills working 20+ hours/week while maintaining full-time student status

U-M Department of Pathology

Research Assistant **2016 – 2017**

- Learned and applied contemporary research techniques on the job, curating technical tutorials for colleagues
- Permitted the examination of big data and subsequent multivariable data analysis by performing tests on protein samples

PROJECT EXPERIENCE

Operating System Simulator: C, C++, Shell, Makefile, Python **2020**

- Virtualized a processor by implementing a thread library safe for a multitask environment with multiple CPUs
- Abstracted DRAM memory into protected virtual address spaces, allowing each process to have shared and private data
- Constructed a secure network file server by virtualizing disk space into a hierarchical file system that allows communication with clients via TCP sockets

Search Engine (Local Files): Python, Javascript, React, HTML, SQL **2019**

- Implemented a scalable Wikipedia search engine implemented with a MapReduce pipeline to create inverted indices
- Conducted information retrieval (IR) based on both TF-IDF and PageRank scores, handled by a RESTful API index server

SKILLS

Languages: C++/C, Python, JavaScript, React.js, SQL, Shell, HTML, CSS | **Tools:** Git, Docker, AWS, Linux | **Methods:** TDD, OOP, Agile/Scrum, SDLC

EDUCATION & OTHER

University of Michigan

B.S. Computer Science | B.S. Biopsychology, Cognition, & Neuroscience

- **Michigan Research Community**: Participated in seminal research on the pathology of various leukemias and epilepsies
- **Circle K (Kiwanis Club)**: Provided service to multiple community organizations in the Ann Arbor and surrounding areas
- **Project Management Certification**: IPMA-certified project management associate through the Ross School of Business