Tom Krug

Software Engineer

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Relevant Experience

Software Engineer @ Nanedge

2022 - Present

- Architected backend infrastructure to support mobile applications on iOS and Android devices for 1M+ DAUs using Google Cloud Platform and FireDB including user authentication, state management and identity access management
- Developed custom API microservice to return list of workouts to user based on account profile settings, and integrated existing microservices (Algolia search, Stripe payments, MessageBird, BigQuery) to support critical business logic components of mobile application framework

Product Development Engineer @ Analog Devices

2020 - 2022

- Lead test engineer for highest revenue-generating product in ADIs Digital Healthcare business unit. Responsible for sustaining and new development activities including design and debug of production boards, developing production code in VBA and Python, maintaining code repositories with git and tortoiseSVN, and tracking yields across all production facilities using JMP
- Migrated department databases from on-premise servers to virtual private cloud provider. Designed database architecture from initial concept to production deployment. Significantly reduced engineering costs by automating data workflows and reports
- Tracked project documentation, requirements, tickets and bugs in Confluence and JIRA
- Developed data processing algorithms and test cases for new products utilizing Jupyter Notebooks

Software Test Engineer @ Itron

2018 - 2019

- Integrated automated test equipment into new product lines by developing LabVIEW program logic, user-interfaces for operators, and SQL database connections to track yields
- Optimized test coverage of new product lines by designing pass/fail criteria at each step in manufacturing process and developing test cases for program logic

Software Engineer Intern @ Lockheed Martin

2019

- Designed and implemented a pneumatic feedback system in C++ to optimize nitrogen gas expenditure for relative humidity chambers across the F-35 production line
- Designed a proof-of-concept IoT mesh network using ZigBee to monitor gas consumption across the facility to provide accurate cost savings of implemented design

Skills

Programming Languages

Python, Dart, JMP, VBA, LabVIEW, MATLAB, SQL, NoSQL

Libraries & Frameworks

Django, React, Gatsby, Node.js, Jekyll, Matplotlib

Tools & Platforms

Git, AWS, Kubernetes, Docker, Netlify, Heroku, Confluence, JIRA, JAMA

Hardware

Oscilloscopes, Function Generators, Digital Multimeters, Signal analyzers, Spectrum Analyzers

Education

Minnesota State University

2016 - 2019 / / Mankato, MN

Bachelor of Science in Electrical Engineering
Minor in Mathematics and Biology
Cum Laude and Self-funded

Certificates

IBM Full Stack Cloud Developer Certificate

AWS Certified Cloud Developer

Projects

DJ Website @ www.djpleb.com

2022

- A creative site for a local Boston DJ. Includes an admin panel to edit upcoming events and new music. Frontend and backend built with CI/CD using Django, Bootstrap, and Heroku. AWS used for asset management.

Portfolio Website @ www.tomkrug.io

2021

- A single-page app built using React and Gatsby to showcase my background, work experiences, and personal projects

Optogenetics Neural Network Modeling

2017

- Trained neural network model to statistically characterize response of mouse hippocampal cells exposed to various concentrations of ion-blocking reagents in MATLAB. Performed computationally-intensive workloads via batch scripting using UMN Supercomputing Institute