Justin Schaare

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Experience

Embedded Software Engineer — Feb. 2019 – Present
Northrop Grumman Corporation Space Systems — Linthicum Heights, MD

- Lead Developer for IRAD team in Versal Early Access program in partnership with Xilinx
- Implemented Adaptive Beamforming algorithm on Versal AIE vector processors
- Integrated and tested flight software with FPGA IP cores for algorithm acceleration
- Designed and developed in-house Linux kernel drivers for FPGA control
- Maintained custom Linux distribution for "system on a chip" hardware platform using Yocto Project
- Created Python tools for remotely updating operating systems and FPGA image via U-Boot
- Setup embedded SoC server racks for remote development and testing of flight software and FPGA IP

Data Science Intern — May 2017 – Aug. 2017
The Washington Post — Washington, D.C.

- Developed news story generation micro-service in Python for the "Heliograf" project
- Used Neo4J for database and relationship visualization and GraphQL for data ingestion
- Regularly interacted with newsroom editors for requirements and feedback

Projects

TweetSub Bot | Python, Redis, Docker

- Developed a bot to publish tweets to a private Discord server
- Followed Twitter accounts for mentions of graphics cards sales using Tweepy
- Published tweets to channels that subscribe to messages via Discord API
- Used Redis streams for communication between services
- Containerized each service with Docker

Simple Blog | Rust, Rocket, React, PostgreSQL, Docker

- Developed a simple full-stack blog for personal use
- Created RESTful API with Rocket for communication with PostgreSQL database
- Designed React front-end for viewing and filtering posts

HeehawBot | Python, Docker

- Developing a Discord bot with various features and utilities for my personal Discord server
- Interact with users on Discord for feature suggestions and improvements

JP OCR | Python, Jupyter, Tensorflow

- Developed a Jupyter Notebook using Tensorflow for classifying images of handwritten Japanese characters
- Trained using AIST ETL 9G character database

Technical Skills

Languages: Python, C, C++, Rust, Java, Bash, MySQL, PostgreSQL
Frameworks: Linux Kernel Development, OpenCV, Tensorflow, Unity
Tools: Git, Docker, Jupyter Notebooks, Yocto Project, Xilinx Vivado/Vitis, Atlassian Tool Suite
Other: Agile, Scrum, Kanban, Japanese (JLPT N2)

Education

George Mason University — Fairfax, VA
Bachelor of Science in Computer Science — Aug. 2014 – Dec. 2018

Soka University — Hachioji, Tokyo
Japanese Language Exchange Program — Sept. 2017 – July 2018