Joseph Sheldon Jr.

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github.com/joe-sheldon/

Software Engineering Professional and Team Leader

Innovative software engineer with strong analytical background and extensive experience in full stack software development. Skilled in software architecture, DevOps, and scientific programming. Proven record of delivering quality software at scale. Engaged with business and leadership needs with an eye towards observability, metrics, and product planning.

Backend: Python, Java, Django, Flask, Postgres, MongoDB, SQL, Kafka, Datadog, Segment, Sentry.io, Twilio, Mailgun, Rest API
Frontend: Javascript, NodeJS, ReactJS, JavaFX, PyQT
Testing and Documentation: PyUnit, JUnit, Cypress, Test Driven Design, JavaDocs, PyDoc, OpenAPI
Cloud: DevOps, GitHub Workflows, AWS, GCP, Docker, Docker Compose, CI/CD Pipelines, Porter.run, Portainer, Kubernetes
Data Analysis and Visualization: C++, CUDA, Pandas, NumPy, PyTorch, PyPlot, Plotly, PIL, OpenGL, Unity, Godot
SDLC: Requirement Gathering, Modeling, PR Review, Jira, Confluence, Github, Gitlab, Object-Oriented Programming
Leadership: Mentoring, Advising, Product Management, Team Building, Event Storming, Domain Driven Design
Customer Support: Relationship Building, Public Speaking, Product Demos, Tutorials, Problem Ticket Triage and Resolution

Professional Experience

Senior Software Engineer and Team Lead at Blueink LLC   *March 2022 to August 2024*

- Lead architect of the internal 'Support Portal' tool and Co-lead architect of subscription and entitlement management system
- Lead developer of the public client module '*blueink-client-python*' published on PyPI
- Maintainer of PDFBox based document processing application that processed every document at Blueink
- Enhanced observability around platform health and feature usage, including live Datadog dashboards
- Migrated applications from Heroku to AWS; created automated build, test, and deploy pipelines
- Provided escalated support for challenging and / or sensitive customer problem tickets.
- As Innovation Team Lead, explored use of voice recognition, text-to-speech, and ML models to have interactive dialog about documents and advised two teams of University at Buffalo MIS students on their capstone project

Senior Software Engineer at General Dynamics Electric Boat   *July 2018 to March 2022*

- Lead developer of the Build Plan Editor, a 3D based authoring tool for paperless and augmented reality work instruction
- Co-designer of the backend system that delivers fast access to CAD models
- Developed batch process to re-tessellate and convert legacy 3D format to modern in house format using OpenGL
- Live PMI pilot – server-side dimensioning of CAD model features for use within several apps
- As PI of the machine learning pilot projects, I developed methods optimizing purchase order sequences and determining optimal weld classification using PyTorch and created custom visualization tools to diagnose neural network outputs.

Research Assistant at University of Connecticut Physics Dept.   *August 2016 to May 2018*

- Built a data acquisition card into a 'NIM' rack module, wrote custom firmware to buffer measurements.
- Wrote a Python wrapper and designed a GUI using PyQT5 to control the data acquisition card over serial.
- Wrote custom Python API to control LakeShore Model 372 AC/Resistance bridge.
- Investigated using active noise cancellation circuitry to counter vibrations for a scanning SQUID microscope.
- Redesigned experiments in the astronomy lab manual and maintained a linux server for the course.

Research Assistant at Pennsylvania State Astronomy Dept.   *November 2014 to August 2016*

• Simulated exoplanet transit light curves for modeling data from the Kepler space telescope.
• Parallelized a Fortran algorithm (using CUDA C) for integrating planet trajectories around binary star systems.

Research Assistant at Purdue University Physics and Astronomy Dept.   *Summer 2015*

• Analyzed 'BiPo' event data from the XENON10T dark matter detector using ROOT.
• Ran Monte Carlo simulations of radioisotopes decaying inside the detector using GEANT4.

Education:

BS Physics, BS Astronomy @ Pennsylvania State University   May 2016

Public Works / Press:

Python Client for Blueink API   2023

https://pypi.org/project/blueink-client-python/

One Pager about Electric Boat's Build Plan Editor   2021

https://nsam.ati.org/portfolio-items/model-based-build-plan-2/

References are available upon request