Adrian Cederberg

Software Engineer

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Linkedin Github Website PDF

Software engineer with expertise in architecting and implementing REST APIs with `python`, success in building SaaS, and DevOps/Cloud engineering to support SaaS (with `teraform`) for hundreds of users in a startup environment. Proven track record of enhancing developer productivity and ensuring bulletproof deployments through automation (in `bitbucket` pipelines and `github actions`) and containerization/reliability (with `kubernetes`). Background in applied mathematics and engineering with a long term obsession in software and technology.

Experience

acederberg.io

Sole Proprietor ***January 2024 - Now***

Established a technical blog covering topics in data science, data structures and algorithms, and development operations to share insights, expertise, and progress. Built acederberg.io using `quarto` and `python` to showcase 30+ blog posts, 4 projects, a resume, and a professional portfolio.

- Achieved >99% site reliability for acederberg.io and ensured consistent deployments and builds using infrastructure as code with `pulumi` on `linode` and `GitHub Actions`.
- Developed additional components for acederberg.io to enhance content clarity and interactivity using custom `pandoc` filters in `python` with `pydantic`, supplemented by additional `javascript` and extended `SCSS` built on `bootstrap`.
- Streamlined authorship for acederberg.io by creating a development dashboard and a `typer` CLI to monitor `pandoc` filters and `http` server logs, utilizing `FastAPI`, `websockets`, UNIX domain sockets, and `mongodb`.
- Contributed to the `GitHub` open-source community by raising and resolving issues, particularly in `quarto` and its associated projects.

Mountain Vector Energy

Senior Software Engineer ***January 2022 - December 2023***

Lead the design and implementation of building management and analytics SaaS to empower building management teams and owners to optimize and have clear insights into their utility usage and expenditure. Designed, implemented, and tested the Cufflink data API (using `python`), SaaS continuous integration and delivery across multiple developers and projects, and infrastructure as code projects to reliably power the user dashboard and deliver new releases.

- Ensured confidentiality, security, and accuracy of customer data from the Cufflink API using `OAuth` to safeguard API endpoints, `MySQL` to make secure queries, `traefik` to implement `SSL` termination, and writing robust tests with `PyTest` to ensure the effectiveness of these measures.
- Improved developer efficiency and ensured software quality with automated tests and `docker` builds in `bitbucket` pipelines.
- Ensured SaaS platform uptime to above `99%`, platform stability and reproducibility using `terraform` infrastructure as code on `Azure`, and guaranteed rapid software delivery by designing self testing deployments using `helm`.
- Streamlined internal data operations and created data pipeline visibility by initiating the development of an admin dashboard using using `NextJS`.

University of New Mexico

Research Assistent ***August 2019 - December 2020***

Researched air plasma generation for astronautics with Craig Davidson of Dark Sea Industries.

- Documented efficient air plasma generation using magneto-fluid-dynamic methods. Built various components for experimental setup including magnetic venturi and power supply array to define electrodynamic environment by passing current through large magnets composing the magnetic venturi.
- Recorded experimental session IR and magnetic and electric field data using a multiplexed `I2C` array controlled by a raspberry pi with code developed in `python` and `c`.
- Processed and plotted experimental data using `numpy` and `matplotlib` to document findings.

Education

University of New Mexico

Bachelors of Science ***August 2015 - December 2019***

- Ensured consistent, actionable feedback and organization integrity as a tutor and exam proctor in remedial algebra at UNM's math learning lab. Ensured actionable and detailed feedback by grading college algebra (100+ students), undergraduate linear algebra (20+ students), and ordinary differential (20+ students) equations homework.
- Graduated with coursework in graduate mathematics, for instance topology, differentiable manifolds, and real analysis. Learned and implemented a number of numerical solutions using `python` and Mathwork's `matlab`.
- Documented efficient air plasma production leveraging advanced principals in fluid dynamics, electricity, and magnetism. Recorded and analyzed large sets of experimental results using `python` by building and programming I2C sensor arrays using Raspberry Pi and Arduino.

Skills

Software implementation (`Python`, `JavaScsript`, `shell`, `Git`, `Docker`), deployment (`Terraform`, `Pulumi`, `Kubernetes`, `actions`), back-end (`FastAPI`, `MySQL`, `MongoDB`), and front-end (`React`, `NextJS`, `SCSS`, `Jinja`). For a more exhaustive coverage of my skills, see the skills page on my website.

Projects

- Acederberg.io - My blog and portfolio made with `quarto`, `python`, `javascript`, and `docker`.
- Captura - Permissions management service using `FastAPI` and `sqlalchemy`.
- Automation - Automation for my blog and Captura using `github actions`, `pulumi`, and `linode`.
- NeoVim Configuration - To make for an excellent development experience in `neovim` written in `lua`.

Check out my github to learn more.