David Perez

Software Engineer

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EXPERIENCE

Software Engineer & Co-Creator, *Sundial* 🔗   Aug 2023 – Present

Sundial 🔗 is an open-source, self-hosted cron job monitoring and management system that provides responsive, bi-directional communication between users and registered crontabs on one or multiple nodes.

- Developed a CLI script suite to integrate the centralized monitoring service with a node's cron utility (**Node.js**/**JavaScrip**t)
- Architected a solution to anticipate and check cron job non-execution events (**Task Queues**)
- Enabled CRUD operations to a remote node's crontab utilizing a lightweight **HTTP server** that triggers requests for new data from the centralized monitoring and management service
- Daemonized the HTTP server to ensure consistent availability (**Linux, systemd**)
- Implemented a **RESTful API**, facilitating app component communication and persistence of cron job execution information (**Node.js, Express, PostgreSQL**)
- Constructed a responsive dashboard that provides dynamically updated cron job execution data and centralized management for performing CRUD operations on crontabs (**React, Express, Material UI, Server-Sent Events**)
- Transformed service setup from 20 to 2 steps by containerizing server code (**Docker Hub**, **Docker Compose**)
- Eliminated installation dependencies by packaging scripts into executable binaries
- Increased security on public network multi-node setups with **JSON Web Tokens** and **API Keys**
- Conducted diverse load tests on Sundial, finding a 0% failure rate up to 200 concurrent monitored jobs (**Grafana K6**)
- Authored a comprehensive case study 🔗 analyzing Sundial's problem domain, system design, and engineering decisions
- Collaborated remotely with a team of four engineers across three time zones using agile workflow (**GitHub, Slack, Trello**)

Software Engineer, *Open Source Projects*   Jan 2023 – Aug 2023

Developed various personal and open-source projects. These include:

- Inquiry Hub: a real-time webhook request inspection and debugging application built with **React, Express, MongoDB**, and **PostgreSQL** and served on a **DigitalOcean Droplet** via **NGINX** using **PM2**
- Pin Pals: a bowling league roster information and score tracking application (**Ruby, Sinatra, PostgreSQL**)

Research & Development Engineer, *Innovative Drive Corporation*   Oct 2018 – Jan 2023

- Designed, prototyped, and developed medical devices from feasibility to manufacturing, utilizing t-stack analysis, FEA, DFM, and risk management in line with FDA regulations
- Created automated manufacturing work cells
- Oversaw branch's quality assurance

SKILLS

Backend
Node.js, Ruby, Go, PostgreSQL, MongoDB, RESTful APIs, Express, Sinatra, Minitest, Jest

Frontend
JavaScript, Handlebars, HTML, CSS, React, jQuery

Other
Git/GitHub, Docker, DigitalOcean, Heroku, Nginx, Object Oriented Programming, Bash, Postman, systemd, Linux

EDUCATION

Launch School

Jan 2023 – Aug 2023

Mastery-based software engineering curriculum. Over 1000 hours of study, read more: launchschool.com/employers 🔗

University of California, Berkeley,
Bachelor of Science in Mechanical Engineering

Aug 2014 – May 2018 | Berkeley, CA

- Data Structures
- Advanced Programming with MATLAB