

Jagandeep Brar

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Experience

Lead Software Engineer

April 2019 – Present

@ SolarSkyrise

// Winnipeg, MB

- Architected, implemented, and shipped two complete SaaS products designed to handle thousands of concurrent users and requests per second
- Designed and implemented performant and robust microservices across a diverse array of languages and frameworks including Node.js, Golang, and C++
- Lead development of an Unreal Engine-based solar efficiency analyzer with real-time shadow and context analysis with support for importing industry-standard graphical model types
- Developed a Node.js-based application for fetching, parsing, and filtering large datasets of global topography, building, and infrastructure data from a variety of publicly available sources into a single, internally used database
- Deployed automatically scaling clusters of microservices on Google Cloud Platform utilizing Docker Swarm and Kubernetes

Freelance Software Engineer

June 2018 – January 2019

@ Dragon Engineering

// Winnipeg, MB

- Ground-up implementation of a customized employee RFID logging and tracking system, built using C++, MySQL, and Python
- Built and installed an IoT monitoring system for mini water turbines, allowing access and exporting of system performance data and execution of emergency operations remotely

Projects

LunaSea

December 2019 – Present

- A Flutter-based mobile and desktop application for unifying the user experience of self-hosted software by linking into software's exposed APIs
- Open source with over 400 stars on GitHub and over 30,000 daily active users
- Utilizes Firebase for user authentication, databasing, and storage of end-to-end encrypted backups of user configurations
- Developed and deployed multiple load balanced Node.js-based webhook relays for mobile push notifications

App Development System Lead

September 2016 – June 2018

- Contributed to the UMSAE formula electric team's embedded operating system based on the FreeRTOS microkernel and ARM Cortex-M4/M7 microcontroller chips
- Spearheaded the development and implementation of multiple external Android and Python-based applications used to communicate with and control the vehicle's embedded system
- Placed 10th out of 72 at Formula SAE Electric 2018, winning multiple awards for our software implementation

Jugtopia

November 2011 – Present

- Personal homelab built from retired enterprise server equipment
- Installed, setup, and self-taught VMWare's ESXi for hosting multiple micro VMs
- Setup network consisting of multiple VLANs for isolating network access

Education

University of Manitoba

October 2019

Bachelor of Science in Computer Science

Specializations in software engineering, operating systems, and artificial intelligence

Publications

Artificial intelligence and physicians in the future of medicine: a meeting of minds?

Volume 2, Issue 1

October 2019

Published in the University of Manitoba Journal of Medicine

Skills

Programming Languages

Dart, TypeScript, JavaScript (ES6+), Golang, C++, HTML, CSS/Sass, Bash

Libraries & Frameworks

Flutter, Node.js, Express.js, Gatsby, React

Databases

MongoDB, PostgreSQL, Redis, MySQL, GraphQL, Apollo, Prisma

Tooling

Docker, Kubernetes, NGINX, Let's Encrypt, ESXi, ZFS, Fastlane, Jenkins, Firebase

Other

Google Cloud Platform (GCP), Unix-based Systems, API Design, Microservices, 130+ WPM Typing Speed

Interests

Longboarding, biking, traveling, reading, music, filmography