

# Jagandeep Brar

me@jagandeepbrar.io

204-995-8299

github.com/jagandeepbrar

jagandeepbrar.io

## Experience

### Software Engineer II

July 2021 – Present

@ Nuvalence

// Toronto, ON

- Developed performance-focused, high-throughput Node.js-based services utilizing AWS infrastructure including ElastiCache, RDS, DynamoDB, and S3
- Worked on domain-specific runtime document caching utilizing deterministic hashing techniques to reduce service calls by over 95%
- Designed and architected an automated validation system of domain-specific runtime documents in production environments, reducing client-impacting errors and increasing client satisfaction
- Migrated all our services and packages to TypeScript with ESLint for improved stability, testability, and developer experience
- Utilized industry-standard deployment patterns including Jenkins, Docker, and Kubernetes for continuous integration and deployment of our services

### Lead Software Engineer

April 2019 – June 2021

@ 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 industry-standard graphical model types
- Developed a service to fetch, parse, and filter large datasets of global topography, building, and infrastructure data from publicly available sources

### 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
- Developed a monitoring system for mini water turbines, allowing exporting of system performance metrics 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 800 stars on GitHub and over 50,000 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

### UMSAE Application 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 Android-based applications to communicate with and control the vehicle's embedded system

## Education

### University of Manitoba

October 2019

Bachelor of Science in Computer Science

Specializations in software engineering, operating systems, and artificial intelligence

## Certifications

### Professional Cloud Architect

March 2022

Google Cloud Certified expiring in March 2024

## 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

TypeScript, JavaScript (ES6+), Dart, Golang, C++

### Libraries & Frameworks

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

### Databases

Redis, PostgreSQL, MongoDB, GraphQL

### Tooling

Docker, Kubernetes, Jenkins, Datadog, Kibana, NGINX, ESXi, ZFS, Fastlane, Firebase

### Other

Google Cloud Platform, Amazon Web Services, Unix-based Systems, API Design, Microservice Architecture, 130+ WPM Typing Speed

## Interests

Longboarding, biking, traveling, reading, music, filmography