Vishaal Shah-Chittur

4A Systems Design Engineering

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Experience

Backend Engineering Intern – Verkada   San Mateo, California 2019–20
> Redesigned event notifications in Flask by implementing Jinja2 templates for consistent and reliable dynamic content creation
> Developed video streaming architecture with WebSocket/HLS to help reduce .m3u8 load time by 80%, feed latency <2s behind live
> Wrote new Go packages for OAuth, KMS-based cross-server audit-logs, handling segment data, and interfacing with camera firmware
> Set up unit and integration test suites for 75% coverage increase, automated Docker builds for new packages and service deploys

Software Developer – Localcoin   Toronto, Ontario 2019
> Designed front-end for Retail Platform DCE and Admin dashboard, developed Postgres data models with JDBC implementation
> Managed project backend components (CircleCI, Nexus, Flyway) through multiple design cycles using Agile methods and tools
> Built internal livenet block explorer on Linux using Bitcore, node, ZeroMQ to resolve ~33% of all incoming support requests
> Created new website extensions for BeaverBuilder and Instapage use resulting in 20% Google Analytics engagement improvement

Software Engineering Intern – All Blue Solutions Inc.   Dallas, Texas 2018
> Core API for ngDesk, building Java microservices with MongoDB and Redis to support Spring Boot app running Apache Kafka
> Integrated new pubsub model (MQTT to STOMP.js) into main messaging interface to create new notification system through AWS
> Constructed jsoup and db2jcc4 web scraper to aggregate and process large volumes of client EMR data
> Created different Java utilities to automate parsing of IBM sales data into internal SugarCRM (MariaDB)

Application Developer – Kenna   Mississauga, Ontario 2016–17
> Full stack development with MS SQL Server and IBM Lotus Notes, created diverse toolsets for multiple ongoing client projects
> Enabled 75% app load time streamline by transposing relational table structures, built in-house PDF generation system for licensing
> Updated primary network file transfer procedure to SFTP using Java modules written with JSCh API

IT Analyst – TD Canada Trust   Etobicoke, Ontario 2016
> Automated Monthly Operational Report metrics generation (retail and email) with VBA scripting for Enterprise Capacity Management
> Wrote Python scripts (Splunk API) to tabulate and parse data on 5000+ cloud VM's, consulted for research analysis and visualization

Projects

Xylosynth GDrive
Instrument synthesizer built through iterative design loops, feedback, user testing for Stage II RA patients

Rock Paper Scissors EMG GDrive
Analog circuit to read electrode signals, implementing op. amplifiers, filters, wave rectifiers, peak detector

Kōan – Hack The North 2016 Devpost
Python panic attack prevention app built on Muse SDK with Firebase, Ruby on Rails, node.js, Twilio

Dicejack GitHub
Digital blackjack simulation using Arduino UNO game programming and hardware configuration

Dream Team Pong GitHub
Two-player ping pong game in Python with QtGUI

Skills

Languages & Frameworks
Go (Gorilla), Python (Flask, Django), Java (Spring Boot, Maven), C++, VBA, Swift, HTML, CSS (Material, Sass), JavaScript (React, Angular 6, node, jQuery), LotusScript, XSP/XML, PHP, Bash (cron), Arduino, MATLAB

Databases & Servers
Dynamo, Redis, SQL (Postgres, MS, MySQL, MariaDB), MongoDB, IBM DB2, Notes, Apache Tomcat, Jetty, WebSphere Liberty, Domino

Technologies
Git, AWS, Docker, Kubernetes, ElasticSearch, CircleCI, JIRA, Sentry, Logz, NewRelic, Jenkins

Creative
SolidWorks, Logic Pro X, Sketch, Adobe Photoshop, Flash, MS Office Suite, XCode, Sublime, Eclipse, PyCharm, Postman

Other
Social skills, leadership, quick learning, prototyping, user-centric design, adaptability

Education

University of Waterloo 2021 BASc Candidate – Honours Systems Design Engineering
Awards: President's Scholarship, Motorola Engineering Scholarship
Relevant courses: Advanced Eng. Math, Physics 1 - 3, Applied Linear Algebra, Data Structures & Algorithms, Circuits, Signals, Control Systems, Models, Optimization & Numerical Methods, Cognitive Ergonomics, Machine Intelligence, Computational Social Science