Vishaal Shah-Chittur

4A Systems Design Engineering

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Experience

Backend Engineering Intern – Verkada San Mateo, California 2019–20
> Redesigned notification system by implementing Jinja2 templates for consistent, reliable content creation
> Developed video streaming architecture with WebSocket/HLS to reduce .m3u8 load time by 80%, feed latency <2s behind live
> Wrote new Go services for OAuth and KMS-based cross-server audit-logs, handling segment data, camera firmware interfacing
> Unit and integration test creation for 66% coverage increase, automated Docker builds for new packages in service deployments

Software Developer – Localcoin North York, Ontario 2019
> Designed front-end for Retail Platform DCE and Admin dashboard, project management using Agile tools (CircleCI, Nexus, Flyway)
> Built internal livenet block explorer on Linux using Bitcore, node, ZeroMQ to resolve ~30% of all incoming support requests
> Created new website extensions on BeaverBuilder and Instapage resulting in 20% Google Analytics engagement improvement

Software Engineering Intern – All Blue Solutions Inc. Dallas, Texas 2018
> Core API for ngDesk – developed microservices with Java, MongoDB, Redis to support Spring Boot app running Apache Kafka
> Constructed jsoup and db2jcc4 web scraper to aggregate large volumes of client EMR data through internal systems
> Extended push notifications through AWS with pubsub (MQTT, STOMP.js), automated IBM sales data parsing for 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% load time streamline by transposing relational table structure, used JSch API to write new SFTP file transfer module

IT Analyst – TD Canada Trust Toronto, 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 research data on 5000+ cloud VM's

Education

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

Projects

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

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

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

Dicejack
Digital blackjack simulation through Arduino UNO game programming and hardware configuration

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

Skills

Languages & Frameworks
Go, 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, Loggly, NewRelic, Jenkins

Creation
SolidWorks, Logic Pro X, Sketch, Adobe Photoshop, Flash, MS Office Suite, Sublime, Eclipse, PyCharm

Other: hobbies and interests
Beats, video games, basketball, cooking, skateboarding