Vishaal Shah-Chittur

4A Systems
Design Engineering

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Experience

Backend Engineering Intern – Verkada   San Mateo, California 2019–20
> Redesigned event notification systems 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 services for OAuth, KMS-based cross-server audit-logs, handling segment data, and interfacing with camera firmware
> Set up unit and integration test suites for 66% 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, project management using Agile tools (CircleCI, Nexus, Flyway)
> 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 – Java microservice architecture with MongoDB, Redis to support Spring Boot app running Apache Kafka
> Constructed jsoup and db2jcc4 web scraper to aggregate and process large volumes of client EMR data through internal systems
> Integrated pubsub model (MQTT, STOMP.js) and AWS for notificationsautomated IBM sales data parsing in 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 structures, used JSch API to write new SFTP file transfer module

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 research data on 5000+ cloud VM's, consulted for analysis and visualization

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 (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, Loggly, NewRelic, Jenkins

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

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