

Vishaal Shah-Chittur

Systems Design Engineering

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Experience

Backend Engineering Intern – Verkada San Mateo, California – 2019

- > Developed new features to rework video streaming architecture with WebSocket/HLS, reduced .m3u8 load time by 80% and feed latency to < 2s behind live
- > Wrote new Go modules for OAuth and KMS-based cross-server audit logging
- > Updated video archiving infrastructure for multi-video history player, generating stitched .mp4 view through FFMPEG filters and AWS processing (Boto3, Lambda, S3)
- > Built services for core product to handle segment data and interface with camera firmware
- > Wrote unit and integration tests to maintain coverage and scale application, Docker build scripts for new packages and deployment configurations

Software Developer – Localcoin North York, Ontario – 2019

- > Created primary frontend for Retail Platform digital currency exchange and admin dashboard applications with Angular 6, Materialize, SCSS
- > Developed PostgreSQL data models for backend and implemented project tools (CircleCI, Nexus, Flyway) to manage Agile deployment pipeline
- > Built new livenet block explorer on Linux using Bitcore, node, ZeroMQ to internally resolve 1/5 incoming customer support requests
- > Wrote website extensions for BeaverBuilder, InstaPage to improve Google Analytics engagement metrics by 30%

Software Engineering Intern – All Blue Solutions Inc Dallas, Texas – 2018

- > Core API and product development for ngDesk
- > Developed platform through microservice architecture with Java, MongoDB, Redis to support Spring Boot application running Apache Kafka
- > Created web scraper module with jsoup and db2jcc4 to aggregate and migrate large volumes of clients' Electronic Medical Record data to internal system
- > Extended main messaging interface to add new push notification routing through AWS with publish/subscribe model (MQTT, STOMP.js)
- > Wrote Java tools to automate parsing and of IBM sales data into SugarCRM (MariaDB)

Application Developer – Kenna Mississauga, Ontario – 2016, 17

- > Full stack development with MS SQL Server and IBM Lotus Notes (Domino Designer)
- > Created and maintained diverse set of tools for custom-built applications, programmed dynamic interfaces for multiple ongoing client projects
- > Built new backend PDF generation system for licenses and warranties
- > Transposed project's relational table structure to streamline app load time by 75%
- > Updated file sharing protocol to primary SFTP network using Java (JSch API)

IT Analyst – Toronto-Dominion Bank Toronto, Ontario – 2016

- > Parsed retail and email data with VBA to tabulate and analyze constant Monthly Operational Report metrics for Enterprise Capacity Management
- > Wrote Python scripts with Splunk API to research cloud data on 5000+ VM's
- > Automated scheduled spreadsheet analytics to reduce processing time by 90% by reworking team's shared macros for faster solutions
- > Designed different data visualization formats for proposal and information decks

Skills

Languages & Frameworks

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

Databases & Servers

DynamoDB, Redis, SQL (Postgres, MS, MySQL, MariaDB), MongoDB, DB2, Notes, Apache Tomcat, Jetty, WebSphere Liberty, Domino

Technologies

Git, Docker, AWS, ElasticSearch, CircleCI, JIRA, Sentry, Loggly, NewRelic, Jenkins

Creation

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

Projects

Xylosynth

Synthesizer built through iterative design loops, feedback, and user testing for Stage 2 rheumatoid arthritis patients

Rock Paper Scissors EMG

Analog circuit to read electrode signals, implementing amplifiers, filters, wave rectifiers, and a peak detector

Dicejack

Blackjack simulation through various hardware configurations and Arduino UNO game programming

Kōan – Hack The North 2016

Panic attack prevention app built with MUSE Headband SDK, Python, Firebase, Ruby on Rails, node.js, Twilio API

Dream Team Pong

Developed ping pong game using Python and QtGUI interface

Education

University of Waterloo

2021 BAsC Candidate

Honours Systems Design Engineering

Awards: President's Scholarship, Motorola Engineering Scholarship

Relevant courses: Digital Computation, Data Structures and Algorithms, Human Factors in Design, Signals and Control Systems, Applied Linear Algebra