

# Vishaal Shah-Chittur

Systems Design Engineering

✉ vschittur@gmail.com  
🌐 vishaalc.me  
☎ (416) 828 9031  
📄 github.com/vishaalc  
📄 linkedin.com/in/vschittur

## 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

### Rock Paper Scissors EMG

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

### Dicejack

Created Blackjack simulation through various hardware configurations and programming with Arduino UNO

### 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, Human Factors in Design, Data Structures and Algorithms, Signals and Control Systems