

# Vivek Kumar Agarwal

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Bangalore, India

I am a full-stack software developer with experience leading development at consumer and B2B startups. I bring a product mindset to my engineering work, creating value beyond the technical domain.

## Languages & Technologies

**Programming:** Python, JavaScript, TypeScript, HTML, CSS, Flask, Django, React.js, React Native, Svelte.js

**Dev-ops:** Docker, Ansible, AWS, Debian/Ubuntu, Bash

**Data:** PostgreSQL, CockroachDB, Cassandra, MongoDB, Redis, RabbitMQ, Apache Artemis

**Other:** REST API Design, Micro-services, GraphQL, X.509, Web Scraping, SEO

## Work Experience

### **ARCHITECT & LEAD ENGINEER, TRUSTCOR CERTIFICATE AUTHORITY, TRUSTCOR SYSTEMS – 2019 - 2020**

- Architected the B2B PKI platform comprised of over 15 micro-services while ensuring compliances for the security, regulatory & audit requirements and scalability, high availability & long term maintenance as the focus
- Wrote majority of the services on the platform in Python – mixture of Flask based REST APIs and worker services, communicating with each other via API calls and message queues – allowing failures of different parts of the platform and having automated business logic flow recovery mechanisms in place
- Ensured high level of test coverage and documentation for internal codebase & customer facing API endpoints
- Setup development environment using Docker to make it easy to develop with and test several services at once
- Wrote Ansible playbooks for bare metal production deployment and leveraged it for testing to bring up the entire platform on AWS within minutes
- **Technologies:** Python, Flask, CockroachDB/PostgreSQL, Apache Artemis, Redis, X.509, REST API design, Swagger, Microservices, Docker, Ansible, AWS

### **SENIOR SOFTWARE ENGINEER, MSGSAFE, TRUSTCOR SYSTEMS – 2018 - 2019**

- Led the team of 5 developers on the frontend, working on the MsgSafe's React.js and React Native apps
- Implemented real time peer to peer encrypted cross-platform audio and video calls using WebRTC
- Maintained and improved existing WebSocket based text chat service
- Migrated legacy Python 2 Flask based REST API and other backend services to Python 3, along with bug fixes and performance improvement
- Assisted management with hiring interviews and on-boarding developers on the team
- **Technologies:** Python, Flask, PostgreSQL, Cassandra, RabbitMQ, Javascript, HTML, CSS/SASS, React.js, React-Native, Redux, Websockets, WebRTC

### **SOFTWARE ENGINEER, MSGSAFE, TRUSTCOR SYSTEMS – 2016 - 2017**

- Rewrote the MsgSafe's web application (encrypted email client) from scratch in React.js with full mobile support and went to production within four months
- Built the iOS & Android clients using React Native from scratch, sharing code with existing React.js web app
- Created the marketing website (responsive) with better user experience over the existing one

- Wrote a library to manage text translations for existing Flask & React based apps and integrated it with a translation service to automate the process
- **Technologies:** Python, Javascript, HTML, CSS/SASS, React.js, React-Native, Redux

#### **FULL STACK ENGINEER, CHALLENGE – 2014 - 2016**

- Collaborated on the product idea and the technology research & planning
- Built React.js based responsive webapp from scratch
- Developed scalable backend for the platform along with an admin panel and integrated with Stripe
- Wrote Scrapy spiders for scraping several websites to extract data for lead generation
- **Technologies:** Python, Flask, PostgreSQL, HTML, CSS/SASS, Javascript, React.js, Scrapy, Celery, Heroku

#### **FULL STACK ENGINEER, HALLWAYS – 2014**

- Took ownership of the existing codebase, improved it with industry standard conventions and security practices
- Optimised frontend for better performance and rankings on the search engines and developed new features
- Wrote scrapers to collect relevant data from various websites
- Developed & published Android & iOS mobile apps using Phonegap framework
- **Technologies:** Python, Flask, PostgreSQL, HTML, CSS, Javascript, jQuery, Phonegap, Celery, Heroku

#### **CO-FOUNDER & DEVELOPER, AAMARCITY.COM – 2013 - 2014**

- Market research and business idea validation with MVP
- Designed and developed the entire website as the founding developer
- Generated traffic via SEO and social media marketing – organised several competitions to engage users
- **Technologies:** Python, Flask, MongoDB, HTML, CSS, Bootstrap, Javascript, jQuery, Ubuntu

#### **DIGITAL MARKETER, SELF-EMPLOYED – 2010 - 2013**

- Developed & managed Facebook Apps with over 100k daily active users, monetised with CPA offers from several ad networks
- Built niche websites and optimised them to rank on first page of search engines for keywords with high search volume, receiving millions of visitors per month; monetised using Google AdSense & other networks
- **Technologies:** PHP, Wordpress, HTML, CSS, Facebook Graph API, SEO

## Projects

- **IGNOU Portal:** A website for IGNOU students with better navigation & content discoverability, built with Python/Django (*side-project, 2018-2020*)
- **txm:** A web based personal bank account transaction manager, with client side statement parsing, built with TypeScript, Svelte.js, tailwindcss & Postgraphile (*side-project, work-in-progress, 2020*)
- **Meme App:** A webapp to allow users to post content & have discussion around it, like 9gag & Reddit, built with Flask based REST API & React.js (*freelance, 2016*)
- **Irrigation Tracker:** A web app to manage and view irrigation schedules & layouts, built with Flask based REST API & React.js (*freelance, 2016*)
- **Survey App:** an in-house tool for an organisation to build and conduct member surveys, built with Flask, PostgreSQL & Angular.js (*freelance, 2015*)