Neil Kandalgaonkar

Experienced Software Engineer & Open Source Innovator

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Summary

Software engineer with **15+ years of experience** as both **individual contributor** and **leader**. Thrives in roles that span **multiple disciplines**, whether at small startups or large scale organizations like Square, Google, and Wikipedia. Author of several innovative, popular **open source** tools. My strengths include:

- **Creating** software, with a broad and deep experience of the field;
- Fostering **collaboration** – across team members and open source communities;
- Finding a **development strategy** to quickly iterate towards the organization's goals.

Professional Experience

Wealthsimple

Staff Software Engineer

December 2024 – February 2025 (3 months)

Hired to kickstart a new team of staff and senior engineers to address system-wide technical debt. Following an executive leadership change, the team was dissolved.

- Mapped out the company's complex "financial operating system" backend infrastructure
- Analyzed legacy ledger data and began porting it to a next-generation system

Skills used: AWS, DataDog, Distributed Systems, Kafka, Kotlin, Oracle, Postgres, Redshift, Temporal

VRChat

Staff Software Engineer

March 2018 – June 2024 (6 years, 3 months)

Early engineer on cloud, backend, and frontend for a social virtual reality system which grew to have 100,000 concurrent users. Countless features delivered and crises averted. Some highlights:

- The "Impostors" infrastructure and backend, a fleet of GPU instances that simplifies 3D models for low-end devices
- Android (Meta Quest) compatibility. Refactored the asset store, database, backend, and frontend for devices which now comprise over 60% of the user population. Zero downtime for switchover.
- Prototyped a machine learning algorithm that detected thousands of items of stolen content
- Spearheaded a decrease of testing time by 87%, and test boilerplate by 75%

Skills used: AWS, Amplitude, Bash, C#, Cloudflare, CSS, Distributed systems, Docker, DigitalOcean, ECS, Elasticsearch, Github, GitHub Actions, Go, HTML, IaC, JavaScript, Lambda, Linux, Monitoring, MongoDB, Node.js, Nginx, Observability, OpenSearch, Packer, PowerShell, Python, React.js, Redux, Redis, Terraform, Unity, Windows

Square

Software Consultant

July 2019 – March 2020 (8 months, part-time)

Square reached out for help meeting new security standards. With the blessing of my employer, I worked on this one day a week, managing one subcontractor, my CTO at a previous company

- Developed a system to cryptographically sign iOS applications with credentials stored remotely in a hardware security module (HSM), based on my *isign* open source library

  Skills used: cryptography, iOS, Linux, MacOS, Python, Swift

Bench Accounting

Software Engineering Team Lead

March 2017 – March 2018 (1 year)

- Led a project to migrate some customer data from a myriad collection of spreadsheets to one data store, managed by a Scala service and React frontend.
- Created a dashboard for internal accounting team performance
- Spearheaded ending CoffeeScript. Inspired engineers to land the change over the holidays
- Introduced a rubric for candidates' take-home tests, and a process to anonymize the candidate

  Skills used: Agile, Bash, CSS, DataDog, git, HTML, Java, JavaScript, Jenkins, JSP, Leadership, Linux, Node.js, React.js, Scala, sbt, SQL

Sauce Labs

Senior Software Engineer/Interim Team Lead

December 2014 – March 2017 (2 years, 4 months)

- Developed a bare metal testing-as-a-service platform, that allowed customers to run automated software tests on physical iOS and Android devices.
- Created and open sourced *isign* (~700 Github stars), a tool to cryptographically sign iOS app builds in the cloud on Linux, without expensive MacOS servers. First team to successfully analyze this protocol and release a compatible tool

  Skills used: Agile, Android, Bash, Distributed Systems, iOS, Leadership, Linux, MacOS, MySQL, Python, SQL

GeoMind

Solo developer

April 2012 – December 2015 (3 years, 7 months, part-time)

- Invented an algorithm which sifted through millions of geotagged photos and directed users to "interesting" places. Used an early version of React for a cross-platform mobile experience.

  Skills used: AWS, CSS, HTML, JavaScript, Leaflet.js, Linux, Node.js, Postgres, PostGIS, React.js, RDS, SQL

Full Stack Foundry

Entrepreneur-in-Residence

June 2013 – December 2013 (7 months, part-time)

- Helped vet startups for a local investor, and wrote software to help them manage their costs

  Skills used: AWS, CSS, HTML, JavaScript, Ruby, Ruby on Rails

Wikimedia Foundation (Wikipedia)

Software Engineer, Multimedia Usability Project

December 2009 — January 2012 (2 years, 2 months)

- Rewrote or upgraded all systems related to uploading, licensing, managing and storing millions of media files, dramatically increasing usability and correctness in licensing
- Advocated and introduced complex JavaScript frontends to Wikipedia
- Created a JavaScript library to internationalize frontends to hundreds of different languages, now used across Wikipedia (*banana-i18n*, formerly *jquery.i18n*, 700+ Github stars)

  Skills used: CSS, HTML, JavaScript, Linux, MySQL, Node.js, PHP, SQL

Yahoo

Software Engineer, Flickr / Upcoming

December 2006 — April 2009 (2 years, 5 months)

- Backend engineer for Flickr's first iPhone-targeted user experience
- Improved integration between Flickr and Yahoo-internal payment systems
- Won a Hack Day award for a Flickr mapping tool
- Integrated Upcoming's user-contributed local events into Yahoo's main search engine
- Migrated Upcoming's event database to true geographic search, rather than tagged cities
- Modernized Upcoming's user experience, using JavaScript to avoid page loads

  Skills used: Apache, CSS, HTML, JavaScript, Linux, PHP, MySQL, SQL

Google

Software Engineer, Google Checkout

September 2005 — October 2006 (1 year, 1 month)

- Modified Google's sign-in system, GAIA, to securely collect payment information
- Internationalized the Checkout system to handle non-US addresses, currencies, and tax practices
- Pioneered payment flows relying on Google payment systems, for Video and Earth

  Skills used: Bash, CSS, HTML, Java, JavaScript, MySQL, SQL

Education

Bachelor of Arts (BA), Communication Studies
Concordia University, Montreal, Quebec
Spring 2000

Languages

English
French

Industries

Finance & fintech
Open source software
Mapping, GIS
Social media & social networking

Paradigms

Agile ☆ ☆ ☆ ☆

Design Patterns ☆ ☆ ☆

Distributed Systems ☆ ☆ ☆ ☆ ☆

Infrastructure-as-Code ☆ ☆ ☆

Serverless ☆ ☆

Microservices ☆ ☆

Selected Technologies

AWS ☆ ☆ ☆ ☆ ☆

Android ☆ ☆ ☆

Bash ☆ ☆ ☆ ☆

C ☆ ☆

C# ☆ ☆

CSS ☆ ☆ ☆ ☆

CI/CD ☆ ☆ ☆ ☆ ☆

Cryptography ☆ ☆ ☆

Cloudflare ☆ ☆ ☆ ☆

Docker ☆ ☆ ☆

Elasticsearch ☆ ☆ ☆ ☆

Git ☆ ☆ ☆ ☆ ☆

Github ☆ ☆ ☆ ☆ ☆

Go / Golang ☆ ☆

HTML ☆ ☆ ☆ ☆ ☆

iOS ☆ ☆ ☆

Java ☆ ☆ ☆

JavaScript ☆ ☆ ☆ ☆ ☆

Kotlin ☆ ☆

LLMs ☆ ☆

Linux ☆ ☆ ☆ ☆ ☆

MacOS ☆ ☆ ☆

MongoDB ☆ ☆ ☆ ☆

MySQL ☆ ☆ ☆ ☆ ☆

Node.js ☆ ☆ ☆ ☆ ☆

Nginx ☆ ☆ ☆

PHP ☆ ☆ ☆ ☆

Packer ☆ ☆ ☆

Perl ☆ ☆ ☆

PostGIS ☆ ☆ ☆ ☆

Postgres ☆ ☆ ☆ ☆

Python ☆ ☆ ☆ ☆ ☆

React.js ☆ ☆ ☆

Redis ☆ ☆ ☆

Ruby ☆ ☆

Ruby on Rails ☆ ☆

Security Engineering ☆ ☆ ☆

SQL ☆ ☆ ☆ ☆

Scala ☆ ☆ ☆

Swift ☆ ☆

Terraform ☆ ☆ ☆

VanillaJS ☆ ☆ ☆ ☆ ☆

Windows ☆ ☆