

Vinay Padma

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EDUCATION

University of Waterloo

Bachelor of Applied Science in Electrical Engineering, Honors

Waterloo, ON

2012 – 2017

Turner Fenton Secondary School

International Baccalaureate Diploma

Brampton, ON

2008 – 2012

TECHNICAL SKILLS

Languages: Java, Kotlin, C++11, C, Python 3, SQL, MATLAB

Technologies: AWS (EC2, KMS, S3, IoT), Temporal Workflow, Kafka, MongoDB, Elasticsearch, Redis, gRPC, Protobuf

Core competencies: Large-scale distributed systems design, API design, Systems & embedded programming, Android

Software Tools: Git, Vim, Perforce, Android Studio, Prometheus, Splunk, SignalFx, Pagerduty

EXPERIENCE

Stripe, San Francisco / New York

2018 – Present

Founding engineer for Stripe Terminal, the company's in-person payment product, launched in 2018. Acted as domain expert and API reviewer; supported scaling of product and team to 70+ engineers (100+ with hardware). Terminal now processes \$80B+ annually. Select major projects are listed below.

Engineering, Terminal Core Infrastructure

Aug 2020 – Present

- Designed and scaled OTA deployment infrastructure for client software across 1M+ devices with enterprise-grade features (gradual rollout, observability, MDM functionality). Multiple patents granted.
- Built a platform for users to upload and deploy custom apps on field devices; contributed to signing, API design, and web dashboards. As of 2025, 140k+ devices use this, processing \$9.5B in incremental transactions.
- Implemented dynamic TLS certificate provisioning for local HTTPS servers on devices via Let's Encrypt; issued 100M+ certs, enabling \$100B+ in transactions.
- Developed a data pipeline using CDC to populate Elasticsearch for search and analytics; powers dashboards and enterprise features with rich query capability.

Engineering, Terminal Device Platform

Mar 2018 – Aug 2020

- Built C++ embedded applications for Terminal payment devices, implementing payments, HTTPS server, networking, and threading model.
- Ported embedded apps to Android (Kotlin) to support new hardware and scale development team. Launched Stripe's first Android-based Terminal device in 2020.

Index, San Francisco (Acquired by Stripe)

2017 – 2018

Member of Technical Staff, Platform & Embedded Technologies

- Contributed to core embedded and platform technologies, laying groundwork before the Stripe acquisition

Apple Inc, Cupertino, CA

2015 – 2016

Designed and built systems to test various RF systems, such as the antenna on the iPhone X through 2 internships.

RF Instrumentation Software Engineering Intern

2016

Wireless/RF Engineering Intern

2015

Sandvine Inc, Waterloo, ON

2015

Embedded Software Engineering Intern

- Embedded C++ development: designed a multi-constraint traffic load-balancing system. Patent granted

PATENTS

Stripe, US20240201975A1, Deploying assets

Pending, 2024

Stripe, US20240152899A1, Handoff between applications on a payment terminal

Pending, 2024

Stripe, US20240152394A1, Deploying applications to a payment terminal

Pending, 2024

Stripe, US20240152653A1, Secure signing of applications for a payment terminal

Pending, 2024

Sandvine, US20170264550A1, System and method for packet distribution on a network

Granted, 2017