

Stephen Melinyshyn

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Software Engineering

Employment

Stripe

Senior Software Engineer

Jan. 2023 to Current

Working on encryption/tokenization services and infrastructure in Stripe's Cardholder Data Environment.

Seattle, WA

Software Engineer

July 2020 to Jan. 2023

- Introduced a priority-based load shedding system for internal multi-tenant databases based on various database health signals
- Implemented build-time safety & compatibility checks for complex database schema changes
- Created latency & availability metrics pipeline for database SLO/SLC monitoring

Seattle, WA

- Scoping, implementing, and rolling out infrastructure and services for the initial use of AWS Nitro Enclaves at Stripe
- Facilitated several engineering-focused "101" sessions for onboarding new employees
- Mentored interns and new grad engineers on their early career growth

Citadel

Software Intern

Sept. 2019 to Dec. 2019

- Refactored firm-wide portfolio size calculation code, reducing running time from O(hours) to O(minutes)
- Added dozens of new timeseries data ingestion pipelines into a central system to remove legacy systems
- Contributed to reporting software that produced vital recurring reports for portfolio managers and top executives outlining current profit/loss figures and risk exposure

New York, NY

Stripe

Infrastructure Intern

Jan. 2019 to Apr. 2019

- Crafted new infrastructure for the secure Cardholder Data Environment
- Enabled cross-cluster database replication by creating underlying infrastructure and custom code
- Oversaw project to guarantee timely deletion of sensitive transient transaction authentication data
- Reduced the compliance burden of credit card security standards on the rest of Stripe engineering

Seattle, WA

Apple

Safari Intern

Apr. 2018 to Aug. 2018

Developed exciting new features for the Safari application on MacOS and iOS.

Cupertino, CA

Microsoft

Backend Intern

Sept. 2017 to Dec. 2017

- Developed highly requested file storage solution for Microsoft Dynamics 365 CRM leveraging Azure
- Lowered storage costs by over 90% and provided a 30x increase in storage capacity
- Implemented secure valet-key design pattern to handle the scale of Fortune 500 companies
- Ensured backwards compatibility with legacy enterprise software

Seattle, WA

Shopify

Backend Intern

Jan. 2017 to Apr. 2017

- Reduced response time by over 70% on key webpages by refactoring, optimizing database tables, and caching expensive calculations
- Shipped and ran zero-downtime schema migrations on active tables with millions of rows of critical data
- Coordinated with Amazon to integrate modern API changes and eliminate deprecated API

Toronto, ON

Wattpad

iOS Developer Intern

May 2016 to Aug. 2016

- Ran numerous A/B experiments to boost user engagement, retention, and satisfaction
- Increased monthly usage by over 10 million minutes on mobile

Toronto, ON

Projects

Dropboxfs, an in-memory filesystem for Dropbox – bit.ly/dropbox_fs

2019

- Designed and implemented an in-memory filesystem in userspace (FUSE) that connects to Dropbox written in Go
- Allows for users to access their Dropbox contents on demand without requiring disk space
- Supports all regular file operations and synchronizes changes across devices

Nfinite.space – bit.ly/nfinite

2016

- Award-winning cloud storage service that stores files without the need for a datacenter by intelligently and dynamically sharding files to connected peers
- Solely responsible for developing our backend using Go and CockroachDB on AWS

Skills

LANGUAGES

Go

Ruby

Objective-C

Swift

C++

Python

SQL

TOOLS

Vim

Xcode

Instruments

Git

AWS

GDB

MySQL

Awards

Apple Inc, WWDC Scholarship

- Won international competition for a ticket to Apple's World Wide Developers Conference in 2014, 2015 and 2016
- Developed an Objective-C & Swift application with creative and playful UI
- Judged and chosen by Apple out of thousands of applicants to receive scholarship each year

QHacks, Best Use of AWS

Feb. 2017

Awarded for work on Fastify.

Hack The North, Best Use Of AWS

Sept. 2016

Awarded for work on Nfinite.space.

CODEFest, 3rd Place

Oct. 2015

Awarded for work on NearBEYE.

Tech Retreat Hackathon, 1st Place

Aug. 2015

Awarded for work on MarketMesh.

Education

University of Waterloo

BSE Software Engineering 2020

President's Scholarship of Distinction, President's International Experience Award

Interests

Biking, Hiking, Backpacking, Photography, and Mastodon