

# Kye Burchard

hello@kyeb.com | github.com/kyeb | kyeburchard.com

## EDUCATION

MIT | SB ELECTRICAL ENGINEERING AND COMPUTER SCIENCE

GPA: 5.0

2017 - 2021

## EXPERIENCE

Stripe | SENIOR SOFTWARE ENGINEER (L3, API SERVICES)

Jan. 2023 - ?

- Successfully maintained a 99.9999% success rate SLO for the service that fronts all API requests
- Users-first approach to design, prototype, and productionize a higher-throughput, statically-analyzable, Protobuf-based API platform to scale for the next decade of both REST and GraphQL APIs
- Drove the API Services team roadmap by authoring numerous project proposals and building alignment
- Constructed a successful "Debugging" onboarding curriculum for all new engineers

Stripe | SOFTWARE ENGINEER (L2, DASHBOARD PLATFORM)

Jan. 2022 - Dec. 2022

- Designed, implemented, and shipped key parts of a new GraphQL architecture to unify Stripe's frontend data fetching, e.g. auth, schema management, batching, rate limiting, load testing, reliability, security
- Mentored 2 new grads & an intern in career growth & impact maximization

Stripe | SOFTWARE ENGINEER (L1, DASHBOARD PLATFORM)

Feb. 2021 - Dec 2021

- Pushed the Dashboard's reliability (involved in mitigating/remediating 30+ incidents) and performance to new peaks (identified regressions, built abstractions to enable others to easily improve)
- Built platformized infrastructure to improve performance, reliability, and security of the Stripe Dashboard, a massive React/Ruby web app

HackMIT | LOGISTICS HEAD 2019, DEV & CORPORATE RELATIONS 2018

April 2018 – Sept. 2019

- Headed a 12-person team to plan and execute logistics for a 1,200-person, 3-day hackathon

## Other

- MIT Media Lab Designed data pipeline to improve data quality & location detection for Rhythm Badges
- web.lab Coordinated logistics, staff, and delivered lectures for 200+ person web development course
- Stripe Internship Improved the performance of the highest-traffic page by 2-3x
- Microsoft Garage Designed & implemented a modular, scalable audit logging architecture as intern
- Maseeh Hall Led largest dorm at MIT in reviving culture, resulting in a 20% improvement in retention
- SIPB Keyholder & contributor at MIT's student computing group
- Debate Policy Debate state champion (Montana, 2017), MIT debate team (2018-19)

## PROJECTS

Overcooked FPGA | SYSTEMVERILOG, C++, PYTHON

[github.com/kyeb/overcooked-fpga](https://github.com/kyeb/overcooked-fpga)

An online-multiplayer implementation of the game Overcooked, implemented entirely in hardware. Designed & implemented protocol to synchronize game state between FPGAs over the internet in real time.

Politichat | REACT, NODE.JS, MONGODB

<https://politi.chat>

Startup helping campaigns in the age of COVID-19 with a replacement for 1-on-1 conversations with candidates.

## COURSEWORK

Fall 2020	6.111 Digital Systems Lab, 6.837 Graphics, 6.S081 Operating Systems, 6.S079 Quantum Circuits
Spring 2020	6.858 Computer Security, 18.05 Probability & Statistics, CS91r Political Tech (Harvard)
Fall 2019	6.172 Performance Engineering, 6.034 Artificial Intelligence, 18.06 Linear Algebra
Spring 2019	6.033 Computer Systems Engineering, 6.002 Circuits, 6.036 Machine Learning

## SKILLS

ADVANCED	Python, Ruby, Java, TypeScript, Linux, C, HTML/CSS, gRPC/Protobuf
KNOWLEDGEABLE	Terraform, C++, C#, L <sup>A</sup> T <sub>E</sub> X
EXPLORING	Rust, SystemVerilog