Kye Burchard

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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 & contributer 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

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#, LaTeX
EXPLORING	Rust, SystemVerilog