

# Daniel Weber

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## EDUCATION

**JOHNS HOPKINS UNIVERSITY** May 2023 | Baltimore, Maryland

**BS COMPUTER SCIENCE | BS APPLIED MATHEMATICS AND STATISTICS | BA MATHEMATICS**

| GPA: 3.98 / 4.0 | Major GPA: 4.0 / 4.0 | Dean's List (2019-2023)

## EXPERIENCE

**HANDSHAKE | SOFTWARE ENGINEER INTERN** June 2022 – Aug. 2022 | San Francisco, California (Remote)

- Proposed an initiative to scale event publishing infrastructure via sharding to achieve an over 10X increase in throughput.
- Autoscaled Kubernetes deployments using Datadog metrics to reliably ensure event processing within minutes of publishing.
- Proposed and implemented a Google Pub/Sub publishing interface that allows developers to asynchronously publish events while maintaining ordering and data consistency.
- Collaborated with developers both on and off-team to push cross-functional goals which improved organizational efficiency and the user-facing experience.
- Increased the observability of our publishing systems by designing and integrating effective traces/metrics which allowed myself and peer developers to identify problems thus sparking new engineering initiatives.
- Technologies: Ruby, Rails, GCP, Google Pub/Sub, Kubernetes, Helm, Datadog, Github

**AMAZON.COM | SOFTWARE ENGINEER INTERN** May 2021 – Aug. 2021 | Seattle, Washington

- Designed and implemented a heap dump analysis tool to aid developers in the optimization of processes utilizing over 250GB of heap memory.
- Collaborated with key stakeholders on the ad infrastructure team to find the pain points in the existing optimization process.
- Implemented automation to give developers easy access to up-to-date heap dump files, shortening an 8 hour process to a minutes long task.
- Leveraged CI/CD technology to develop an extensible and resilient platform that can evolve with changing business needs.
- Technologies: Java, AWS, CodePipelines, Git

**DISTRIBUTED SYSTEMS/NETWORKS LAB  | SECURITY RESEARCHER** Jan. 2021 – May 2021 | Johns Hopkins

- Curated a deep understanding of a large, intricate code base thus allowing me to demonstrate key security vulnerabilities at both a protocol and implementation level.
- Crafted a resource consumption attack which downed SPIRE, a fault-tolerant distributed system designed to securely control the US power grid, in under 20 minutes.
- Presented the discovered vulnerabilities and attacks to the Department of Defense who have used it to further enhance SPIRE.

**ALGORITHMS/CS FUNDAMENTALS | TEACHER'S ASSISTANT** Sept. 2020 – October 2021 | Johns Hopkins

- Taught students key algorithmic concepts like complexity analysis, dynamic programming, and graph traversal while holding office hours and grading HW.
- Educated students in low-level computing concepts like data representation, memory safety, and parallelism while performing code reviews.

**FAYE | MACHINE LEARNING INTERN** May 2020 - Sept. 2020 | Tel Aviv, Israel

- Created a transformer-powered NLU chatbot to replace an off-the-shelf rule-based Google Dialogflow model that dramatically improved customer workflows through context-aware responses and actions.
- Technologies: Python, Javascript, Tensorflow, Rasa, Docker, Google Cloud

**DAVID ENERGY | MACHINE LEARNING ENGINEER** July 2019 – Sept. 2019 | Brooklyn, New York

- Curated an extensive dataset of high-quality electricity usage predictors from both internal and external sources.
- Developed machine learning models to predict a building's electricity demand with 97% accuracy and deployed said models to allow for real-time electricity usage prediction.
- Architected a secure AWS cloud solution to allow the company's infrastructure to scale as more customers joined the platform.
- Technologies: Python, Git, Tensorflow, Scikit-Learn, AWS

## SKILLS

Languages: Python Java C C++ Ruby Go Javascript Matlab SQL  $\text{\LaTeX}$  x86 Assembly

Technologies: Git AWS-Certified Google Cloud Kubernetes Docker OOP Rails Postgre TensorFlow

Hobbies/Interests: Cycling Hiking Coffee Drinking Concertgoing Piano Playing