

Mitchell Karchemsky

Los Angeles, California ■ mitch.karchemsky@gmail.com ■ www.mkar.ch

Summary

Technical Lead Engineer, Solutions Architect, and Data Scientist experienced in guiding software from concept to production, focusing on backend APIs, data, and connected platforms (including one supporting 1M+ IoT devices). My background includes a Masters in Information & Data Science, 4 top-tier CS publications, and teaching MLOps Systems Engineering at UC Berkeley. Seeking roles to leverage my expertise in building scalable systems, leading diverse technical teams, and delivering data-driven solutions to significant challenges.

Technical Skills

- Software Engineering
- Machine Learning
- Data Modeling
- Systems Architecture & Design
- Cloud Native Development
- Project Management & Delivery
- Containerization and Orchestration
- Data Visualization
- Product Design & Development

Relevant Experience

April 2022 -
May 2025

Traeger - Senior Lead Software Engineer

- **Spearheaded Back-end Software Engineering practice with a strategic focus on Connected Platforms, Data Science, and robust Scalable Systems. Drove innovation and efficiency across critical infrastructure and development processes.**
- Architected and implemented a high-volume, event-driven data telemetry system capable of processing billions of daily datapoints. **Slashed data consumption, storage, and serving costs by 94%** while ensuring backward compatibility with over five years of historical data and boosting API performance by 90%.
- Collaboratively championed and **executed a strategic initiative to consolidate over 1,000 serverless components into 10 streamlined, containerized applications.** Significantly reduced system complexity, increased developer confidence, and improved scalability.
- Led **protocol-driven development** for complex, interdisciplinary systems, ensuring seamless integration between embedded platforms, cloud-native services, and mobile applications.
- Oversaw the maintenance and enhancement of an existing serverless and cloud-native backend architecture, **reliably supporting over 1 million connected consumer devices and ensuring high availability**
- Directed **project design for large-scale initiatives**, expertly breaking down complex requirements into actionable tasks and roadmaps for engineering teams.
- **Mentored and trained junior engineers**, fostering their technical growth, problem-solving skills, and contributions to team objectives.

May 2019 -
April 2022

Accenture Consulting - Principal Technical Architect

- **Technical Lead and Software Engineering Architect, delivered strategic guidance and technical expertise to diverse clients.**
- Led and architected cutting-edge software for diverse clients' connected devices, guiding cross-functional engineering teams across multiple locations. Oversaw full lifecycle development on multi-provider cloud platforms, adapting methodologies to client needs and fostering collaboration.
- Implemented high throughput data systems for efficient analysis in data-processing pipelines
- Articulated complex technical findings, architectural designs, and strategic solutions via data-driven reports and presentations to diverse client stakeholders, from executives to technical teams.

August 2015 -
October 2018

University of California, Berkeley Institute of Design - Research Engineer

- **Develop cutting-edge software and hardware products in a multitude of Human-Computer Interaction topics with a primary focus on Embedded System debugging and development**
- Author and edit award winning publications for technical conferences (see [Publications](#))
- Produce sophisticated web-based applications that interact with complex back-end architectures to interface with embedded systems and devices through a variety of communications protocols.
- Represent findings at top-tier ACM technical conferences

Education

August 2022

University of California, Berkeley
Masters in **Information and Data Science**
Capstone Project - Award Finalist

August 2017

University of California, Berkeley
B.A. in **Cognitive Science** - *Focus in Computational Modeling* | Minor in **Computer Science**

Other Professional Experience

April 2021 -
Present

UC Berkeley: School of Information - Teaching Assistant

- **Supported graduate students in mastering complex technical concepts across foundational and advanced courses.**
- Instructed students on practical implementation of modern technologies including Docker, Kubernetes, and CI/CD deployment strategies, enabling them to design and build robust ML systems.
- Engineered a comprehensive autograding system that empowered students with self-guided learning and immediate feedback; this system automatically vetted submissions through a CI/CD pipeline, encompassing unit tests, integration tests against ephemeral Kubernetes clusters, and end-to-end tests of deployed applications in the cloud.
- 🏆 Recipient of Outstanding Teaching Assistant Award - Fall 2023
- **Courses: Data Science w255:** Machine Learning Systems Engineering; **Data Science w200:** Introduction to Data Science Programming

May 2017 -
January 2018

UC Berkeley: Jacobs Institute for Design Innovation - Teaching Assistant

- **Taught both an introductory and upper division course focusing on skills required to design, prototype, and fabricate physical devices, as well as technological innovation and socially engaged design**
- Led lectures, advise students, and proctor final critiques
- **Courses: Design Innovation 22:** Prototyping and Fabrication; **New Media 190/290:** Critical Practices

August 2015 -
October 2018

University of California, CITRIS:Invention Lab - Systems and Product Design Consultant

- **Design consultant for graduate researchers, startup founders, and post-doctorate scholars to create prototype embedded systems devices, applications, and services.**
- Architect software system for connected products and establish foundation for development pipelines for technology startups and university researchers

Publications

August 2015 -
May 2019

Full papers available on personal website or ACM Digital Library (Open-Access)

- 🏆 Heimdall: A Remotely Controlled Inspection Workbench for Debugging Microcontroller Projects M.Karchemsky, J.D.Zamfirescu, K.J Wu, F.Guimbretiere, B.Hartmann *In proceedings of the 2019 CHI Conference on Human Factors in Computing Systems. ACM, New York, NY, USA*
- Wifröst: Bridging the Information Gap for Debugging of Networked Embedded Systems W.McGrath, J.Warner, M.Karchemsky, A.Head, D.Drew, B.Hartmann *In proceedings of the 31st Annual ACM Symposium on User Interface Software and Technology (UIST '18). ACM, New York, NY, USA*
- Bifröst: Visualizing and Checking Behavior of Embedded Systems Across Hardware and Software W.McGrath, D.Drew, J.Warner, M.Kazemitabaar, M.Karchemsky, D.Mellis, B.Hartmann *In proceedings of the 30th Annual ACM Symposium on User Interface Software and Technology (UIST '17). ACM, New York, NY, USA*
- Drill Sergeant: Supporting Physical Construction Projects through an Ecosystem of Augmented Tools M.Nguyen, E.Schoop, M.Karchemsky, V.Savage, B.Hartmann, S.Follmer *Technical Report No. UCB/EECS-2016-90*