

Ryan Dielhenn

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Education

California State University, Los Angeles

Los Angeles, CA

M.S. IN COMPUTER SCIENCE (IN PROGRESS)

Expected 2026

- Relevant Coursework: Advanced Artificial Intelligence, Advanced Software Engineering, Data Science

University of San Francisco

San Francisco, CA

B.S. IN COMPUTER SCIENCE, MINOR IN MATHEMATICS, GPA: 3.75

2016 – 2020

- Relevant CS Coursework: Big Data, Software Development, Data Structures & Algorithms, Operating Systems, Computer Architecture, Programming Language Paradigms, Senior Capstone
- Relevant Math Coursework: Calculus I & II, Formal Methods, Linear Algebra, Abstract Algebra

Projects

ZephyrCache

Los Angeles, CA

DISTRIBUTED CACHING SYSTEM

August 2025 - Present

- Designing and building a distributed caching system in Go using consistent hashing for key distribution across nodes.
- Integrating etcd for cluster membership, lease management, and peer discovery to enable node coordination.
- Developing monitoring and benchmarking tools to measure routing efficiency and system performance.

EDA Dashboard

Los Angeles, CA

HIGH PERFORMANCE DATA ANALYSIS TOOL

September 2025 - Present

- Built a web-based EDA tool with a FastAPI backend and Streamlit frontend for visualizing and analyzing large datasets.
- Integrated DuckDB for fast, in-process SQL queries enabling responsive exploration of large datasets.
- Implemented bias detection and data drift monitoring features for ML pipeline observability.

Experience

Confluent

Mountain View, CA

SOFTWARE ENGINEER

January 2021 – July 2022

- Collaborated across engineering teams to improve reliability, observability, and security during Kafka's transition to a ZooKeeper-free architecture (KRaft).
- Adapted Cluster Linking to support KRaft, enabling cross-cluster replication without ZooKeeper.
- Integrated metrics pipelines to monitor cluster health and quorum state in KRaft mode.

Confluent

Mountain View, CA

SOFTWARE ENGINEERING INTERN

May 2020 – August 2020

- Improved Kafka usability as a Summer 2020 intern by implementing dynamic client reconfiguration, allowing clients configurations to be updated without restarting producer and consumer clients.
- Enhanced Confluent Cloud's rebalance tooling with asynchronous replica support.
- Continued contributing to Apache Kafka during Fall 2020 while completing my undergraduate degree.

University of San Francisco

San Francisco, CA

RESEARCH ASSISTANT

January 2020 – December 2020

- Conducted research on distributed systems and edge computing architectures under faculty supervision.
- Designed and implemented a geospatial indexing system (Geopresence) optimized for IoT and low-power devices, using RoaringBitmap for bitmap compression and HyperLogLog++ for approximate cardinality estimation.
- Benchmarked prototypes and demonstrated hyper-local, location-aware queries (e.g., retrieving air quality data directly from nearby sensors instead of centralized APIs).

TEACHING ASSISTANT — BIG DATA & OPERATING SYSTEMS

August 2019 – May 2020

- Led weekly office hours, provided project design/debugging support, and evaluated student assignments.

ASSISTANT SYSTEMS ADMINISTRATOR

May 2019 – August 2019

- Automated updates and maintenance tasks for Linux lab machines, reducing manual overhead for IT staff.
- Diagnosed and resolved hardware/software issues for faculty and students in a high-demand academic environment.

Technical Skills

Languages Go, Python, Java, Scala, SQL

Frameworks FastAPI, Streamlit

Infrastructure Kafka, Docker, etcd, Git, DuckDB

Concepts Distributed Systems, API Design, Data Modeling, Performance Optimization