Ryan Dielhenn

(818) 519-6414 | dielhennr@gmail.com | ryandielhenn.github.io

Experience

Confluent *Mountain View*

Software Engineer *January 2021 - July 2022*

- Collaborated across teams to improve system reliability during Kafka's transition to ZooKeeper-free architecture (KRaft).
- Developed tooling and metrics pipelines to monitor Kafka's internal state during KRaft migration, enabling cluster health tracking and quorum validation.

Confluent *Mountain View*

Software Engineering Intern *May 2020 - August 2020*

- Designed and implemented Kafka feature for dynamic client reconfiguration, allowing users to update producer and consumer settings with a single command—eliminating restarts and reducing operational overhead.
- Extended cluster rebalance tooling in Confluent Cloud to support asynchronous log replicas, enabling successful rebalancing for affected customers—shipped within the first month of the internship.

University of San Francisco *San Francisco, CA*

Research Assistant *January 2020 - December 2020*

- Contributed to research in distributed systems and edge computing.
- Prototyped and benchmarked system performance across varied workloads and programming languages.

University of San Francisco *San Francisco, CA*

Big Data and Operating Systems TA *August 2019 - May 2020*

- Held weekly office hours and helped design/debug student projects.

University of San Francisco *San Francisco, CA*

Assistant Systems Administrator *May 2019 - August 2019*

- Maintained and updated over 75 Linux machines with automation.
- Troubleshot lab machines when problems arose for professors and students.

Projects

Geopresence

Geospatial edge computing

- Created a geospatial index and query system for edge computing using bitmap compression (RoaringBitmap) and cardinality estimation algorithms (HyperLogLog++) to optimize for IoT/low power device constraints.
- For a simplistic example, imagine air quality and weather monitoring devices placed on streetlights in a city; instead of querying weather.com, query the streetlight across the street from the restaurant you're going to.

Toxicity Classifier

Reddit comment analysis

- Built ML pipeline to classify toxic Reddit comments using NLP techniques and PySpark for processing millions of records.
- Applied natural language processing techniques and trained classification models on labeled data to achieve high accuracy in toxic comment detection.

Distributed File System

Distributed storage with Google Protocol Buffers, Bloom Filters, Netty and Java

- Developed fault-tolerant distributed file system with probabilistic request routing using bloom filters.
- Implemented replication, dynamic addition of storage nodes, and compression for scalable distributed storage.

Education

California State University, Los Angeles *Los Angeles, CA*

Master of Science in Computer Science *2025 - 2026*

- *Computer Science Courses:* Advanced AI, Advanced Software Engineering, Data Science

University of San Francisco *San Francisco, CA*

Bachelor of Science in Computer Science & Minor in Mathematics GPA - 3.75 *2016 - 2020*

- *Computer Science Courses:* Big Data, Software Development, Data Structures & Algorithms, Operating Systems, Computer Architecture, Programming Language Paradigms, Senior Capstone Project
- *Mathematics Courses:* Calculus I, II, Formal Methods, Linear Algebra, Abstract Algebra

Technical Skills

Languages	Java, Scala, Go, C, Python, JS
Technologies	Kafka, Spark, Docker, Git, Netty
Concepts	Distributed Systems, Systems Design, ML