

# Christian Dipert

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## EDUCATION

### The University of Texas at Austin

*Bachelors of Science in Computer Science, Mathematics*

**Expected December 2026**

*Austin, TX*

- Relevant Courses: Data Structures, Algorithms, Scientific Computing, Object Oriented Programming, Computer Architecture, Operating Systems, Probability & Statistics, Multivariable Calculus

## TECHNICAL SKILLS

**Languages:** Python, Golang, Java, TypeScript, C++, Rust, SQL

**Technologies:** Kubernetes, gRPC, Docker, RESTful APIs, Apache Kafka, postgresSQL, RocksDB, AWS, Natural Language Processing (NLP), High Performance Computing (HPC), System Design, Concurrency & Distributed Systems

## EXPERIENCE

### J.P. Morgan & Chase Co.

*Incoming Software Engineering Intern*

**June 2025 – Aug 2025**

*Plano, TX*

- Summer 2025

### Datadog

*Software Engineering Intern*

**Jan 2025 – Present**

*New York City, NY*

- Developed scalable Kubernetes-hosted microservices in Golang handling 10,000+ requests/sec across AWS, Azure, & GCP
- Worked on a Rust-based scanner based on Abstract Syntax Tree (AST) scanning to efficiently enforce security rules across 56,000 customer repos.
- Introduced concurrency in distributed data ingestion pipelines, improving CPU utilization by 20% and increasing processing speed by ~70%.

### TIAA

*Software Engineering Intern*

**May 2024 – Aug 2024**

*Charlotte, NC*

- Built an automated caching system for large financial datasets, slashing retrieval times by 86% ( $\approx 1,370\text{ms} \rightarrow 190\text{ms}$ ) and saving ~\$200K in annual operational costs.
- Replaced monolithic services using Python, reducing backend resource utilization by 40% and cutting response times by 65%.
- Led a cross-functional team to visualize storage volumes in Excel and Tableau, lowering critical bug occurrences by 64% through early defect detection.

### Lockheed Martin

*Software Engineering Intern*

**Sep 2022 – May 2023**

*Fort Worth, TX*

- Developed an advanced monitoring suite for mission-critical avionics, reducing average processing time by 20% and boosting hardware performance.
- Achieved a 99.8% success rate in low-latency aerospace testing by automating Python and C++ simulation frameworks.
- Collaborated with hardware engineers to implement real-time fault detection, cutting incident response time by 45%.

## PERSONAL PROJECTS

### Scoreify Real-time Music Recognition | Rust, C++, RocksDB

- Building a real-time recognition pipeline using FFT and frequency peak matching to identify classical music from a live violin input.
- Implementing a precomputed fingerprinting system in RocksDB, enabling  $O(1)$  lookups and narrowing candidate matches progressively.
- Displaying a continuously updating spectrogram in egui, providing instant feedback on frequency analysis and match confidence.
- Introducing a 500ms smoothing window to refine detection accuracy, seamlessly switching track playback upon a stable match.

### ML-based ESG Portfolio Parser & Optimizer (T3Hack 1st Prize) | Python, NLP, Quantitative Finance, AWS (S3, EC2, Bedrock) |

- Investment recommendation engine that analyzes 2,000+ equities & fixed-income securities, incorporating ESG preferences to maximize returns.
- Engineered a Python-based NLP pipeline leveraging AWS Bedrock to parse ESG metrics from financial reports, improving data extraction efficiency by 99.92% (7,200 mins  $\rightarrow$  6 mins).
- Built an interactive UI in Figma to enhance data interpretation, boosting user engagement by 60%.

### UT Registration Plus V2 | TypeScript, ReactJS, CSS, ViteJS, Storybook, Semantic Release | [Extension Link](#)

- Created a Chrome extension used by 60,000+ UT Austin students, cutting manual schedule design time by over 85%.
- Adopted Storybook and Semantic Release to streamline development workflows, reducing release cycle times by 40%.
- Planned feature expansions based on user feedback for Fall 2025 registration, targeting a 20% increase in user adoption.

## EXTRACURRICULAR

### University Securities & Investments Team | Python, Algorithmic Trading, Financial Modeling | [Info](#)

- Attending weekly stock pitches & market pulses, learning about quantitative modeling techniques, and giving/attending stock pitch competitions.
- Competing in annual algorithmic trading competitions on commodities & equity derivatives trading techniques with cohort members.

### Texas Symphony Orchestra (Concert Violinist) | [Info](#)

- Attending 3 rehearsals/week & performing in 4 concerts/year playing various repertoire in a nationally-recognized collegiate symphony orchestra.