

# Ridhit Bhura

ridhitbhura1234@gmail.com • (917) 815-3518 • [LinkedIn](#) • [GitHub](#) • San Francisco, CA

## Software Engineer | Backend Developer

Experienced backend software engineer with a proven track record of developing high-performance tools and solutions in fintech, trading, and machine learning applications. Expertise in Python, data processing, and system optimization. Passionate about leveraging my expertise to develop innovative infrastructures that prioritize sustainability and drive long-term success.

## Related Skills

**Programming Languages:** Python, C++, C, JavaScript, Java, Ocaml, SQL, R, Shell Scripting, HTML, CSS, React

**Frameworks & Libraries:** Spring, PyTorch, TensorFlow, Sci-kit Learn, Pandas, Matplotlib, SQLAlchemy, GraphQL, Flask

**Cloud Platforms:** Amazon Web Services (AWS), Google Cloud Platform (GCP), Firebase

**Tools & Technologies:** Git, REST API, Docker, JIRA, CI/CD, ZCM, Wireshark, GIS, TCP/IP, UDP, Node, Maven, APIs, EMR, Kubernetes

**Operating Systems:** Linux, Unix

**Databases:** MySQL, PostgreSQL

## Professional Experience

**Software Engineer Intern**, Millennium Management, Miami, FL

June 2023 – August 2023

- Engineered a Python-based PCAP statistics tool, accelerating data delivery to portfolio managers by 4 hours, enabling extended strategy optimization and improved network capacity planning.
- Integrated inrush command line tools to streamline client and exchange latency statistics processing, identifying bottlenecks and enhancing compliance readiness for the Latency Critical Trading (LCT) team.
- Implemented JSON schema validation to safeguard against configuration data corruption, ensuring reliable execution of the pcap-dumper and mitigating data integrity risks.

**Computing Systems Team Lead**, Cornell Hyperloop, Ithaca, NY

August 2021 – December 2023

- Led an agile team of 10 cross-functional software engineers to architect and implement autonomous software-enabled pod control on the Variable Frequency Drive (VFD), ensuring seamless system integration and performance.
- Designed a high-speed networking framework to streamline sensor data communication using ZCM prototyping, boosting data read speed to 2400Kbps and achieving near-zero data loss in transmission to the GUI.
- Optimized circuit design through innovative use of Arduino microcontrollers and Raspberry Pi, reducing the overall footprint by 40%, resulting in more efficient test runs and easier future modifications to the pod system.
- Spearheaded automated software testing using Google Tests, enhancing system reliability and safety by expanding the finite state machine with 7 new pod states, effectively mitigating safety risks from unexpected pod behavior.

**Software Engineer Intern**, UniPantry, New York, NY

March 2022 – August 2022

- Engineered a recommendation algorithm using a content-based ML filter, achieving 80% classification accuracy and delivering personalized recipe suggestions for over 9,400 beta users.
- Deployed an Item-to-Product mapping API leveraging internal NLP tools to automate cart population, reducing user checkout time by 2.5 minutes per session.
- Implemented grocery store ratings and in-app reviews by developing full-stack features using Yelp's REST API, streamlining decision-making for thousands of users.

## Projects

**Graph-Based Semi-supervised Machine Learning Research**

August 2021 – December 2021

- Developed and deployed multiple graph-based machine learning models on limited labeled data with approximately 20,000 nodes, enhancing composite model accuracy by 13% (from 55% to 68%).
- Established a scalable gradient descent solution in semi-supervised learning models with around 100,000 nodes, streamlining proportional training time for improved efficiency.

**Prison Dash – Game Development**

August 2021 – December 2021

- Engineered a GUI-based prison-themed multiplayer adaptation of Monopoly with 3,000 lines of OCaml code, delivering a uniquely customized board design that enhances user engagement.
- Created and optimized approximately 300 game images using Figma, while refining the XQuartz graphics library to enable seamless animated gameplay.

**Machine Learning-based Indian Election Modeling**

July 2021 – August 2021

- Developed a predictive model for Indian election results by analyzing 200 census classification features, achieving a validation accuracy of 85%.
- Analyzed voting trends across 543 datasets to effectively forecast election outcomes based solely on census data, improving prediction accuracy and data-driven decision-making - Blog.

## Education

**Bachelor of Science in Computer Science**, Cornell University, Ithaca, NY, December 2023