Ridhit Bhura

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EDUCATION

Cornell University - College of Engineering   **Aug 2020 — Dec 2023**
• Bachelors of Science - Computer Science   *Ithaca, NY*
Relevant Coursework • Principles for Large Scale Machine Learning Systems • Advanced Parallel Computing • Learning with Big Messy Data • Intro to Analysis of Algorithms • Operating Systems • Intro to Machine Learning • Functional Programming • OOP & Data Structures • Intro to Computer Vision • GIS Methods & Spatial Analysis • Computer System Organisation and Programming • Intro to Robotics

EXPERIENCE

Millennium Management   **Jun 2023 — Aug 2023**
Software Engineering Intern - Latency Critical Trading   *Miami, FL*
• Developed PCAP statistics tool using Python to reduce data delivery time to portfolio managers by ∼4 hours for longer strategy tweaking window and future network capacity planning
• Integrated inrush command line tools to process client and exchange-wise latency statistics for bottleneck identification and improved compliance readiness
• Enabled JSON schema validation to detect config data corruption and ensure safer pcap-dumper execution

Cornell Hyper Loop   **Aug 2021 — Dec 2023**
Computing Systems Team Lead   *Ithaca, NY*
• Spearheaded a team of 10 embedded software engineers to design autonomous software-enabled pod control on the VFD (Variable Frequency Drive)
• Designed networking framework to read sensor data through ZCM prototyping with an increase in data read speed to 2400Kbps to achieve minimal loss in communicating data to GUI
• Optimized circuit design using Arduino micro-controllers and Raspberry Pi with a 40% reduced footprint for streamlined test runs and future modifications of the pod
• Led comprehensive software testing with Google Tests to enhance system reliability while expanding the finite state machine with 7 new pod states, reducing safety risks from unforeseen pod behavior

UniPantry   **Mar 2022 — Aug 2022**
Full-stack Software Engineering Intern   *New York, NY*
• Developed a recommendation algorithm using a content-based ML filter with an ∼80 % classification accuracy to generate personalized recipes for 9,400 beta users
• Shipped an Item-to-Product mapping API using internal NLP tools to automate cart population and reduce the checkout process by 2.5 minutes per user
• Provided users with grocery store ratings and in-app reviews by implementing frontend and backend feature with Yelp's REST API to ease the decision-making process

RESEARCH PROJECTS

Graph-Based Semi-supervised Machine Learning Research   **Aug 2021 — Dec 2021**
• Deployed multiple graph-based machine learning models on limited labeled data with ∼20,000 nodes to increase composite model accuracy by 13 % (from 55% to 68% accuracy)
• Integrated scale-able gradient descent solution to semi-supervised learning models with ∼100,000 nodes in proportional training time

Machine Learning based Indian Election Modelling   **Jul 2021 — Aug 2021**
• Modeled Indian election results based on ∼200 relevant features of census classification and achieve a validation accuracy of 85 %
• Evaluated voting trends from 543 data sets to accurately predict elections from census data alone - 🌐**Project Analysis**

Prison Dash →**Game Development -** ⟳**prison-dash**   **Aug 2021 — Dec 2021**
• Developed GUI-based prison-themed multiplayer adaptation of Monopoly in ∼**3000** LoC of OCaml for customized board design
• Designed ∼300 game images using Figma and tweaked an XQuartz & camlimages graphics library for animated game play

LEADERSHIP

Cornell CIS Teaching Assistant, CS 4750/5750 - Foundations of Robotics   **Aug 2023 — Dec 2023**
Cornell Engineering Peer Tutor, Calculus I, Calculus II, Calculus III, OOP & Data Structures, Statistics   **Aug 2022 — Dec 2023**
Cornell Tarana, Treasurer for South Asian A Capella group   **Aug 2022 — Jul 2023**

SKILLS

Languages   C++, C, Python, JavaScript, JAVA, OCaml, ROS, HTML/CSS, LaTeX, SQL, SQLAlchemy, Shell Scripting
Technologies Git, REST API, PyTorch, Sci-kit Learn, GIS, ZCM, Wireshark:capinfos, tcpdump, React, Docker, TCP/IP, UDP
Frameworks   Amazon Web Services(AWS), Google Cloud Platform (GCP)