

Rishindra Davuluri

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EDUCATION

The University of Texas at Austin <i>Texas CSB Honors Program</i>	B.S., Computer Science Honors B.B.A., Canfield Business Honors	Austin, TX Aug. 2023 - May 2027
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Relevant Coursework: Machine Learning II (H), Principles of ML I, Algorithms (H), Java Data Structures (H), C++ Operating Systems (H), Computer Architecture w/ C (H), Object-Oriented Programming, SQL MIS (H), Data Science in R (H), Decision Science (H), Discrete Math (H), Linear Algebra, Multi-variable Calculus, Statistics & Probability
(H) = Honors

Work Eligibility: US Citizen

EXPERIENCE

Moody College of Communication - *Undergraduate NLP Researcher*; Austin, TX Dec 2025 - Present

- Engineering **BERTopic** and **RegEx** feature-engineering pipeline analyzing 4,500+ financial complaints on demographic disparities

UT Austin: Learning Directed Operating System - *Undergraduate ML Researcher*; Austin, TX Oct 2025 - Present

- Designing **Model Context Protocol (MCP)** to enable efficient coordination between neural network agents managing OS resources

Capital One - *Software Engineer Intern*; McLean, VA June 2025 - Aug 2025

- Enabled omni-channel experience for Fraud Concern agents by developing cache library with **Python**, **AWS Lambda**, **Snowflake**
- Integrated cache into *Empath* webpage with **Vue + JS**, improving workflow completion by **40%** for **80K** monthly callbacks
- Built phishing simulation platform using **Next.js** and **Twilio** to send custom emails, track user clicks, and provide security training

UT Austin: Dynamic Belief Games - *Undergraduate ML Researcher*; Austin, TX Sept 2024 - Jan 2025

- Trained and tested various **GCNNs** and **PyTorch SB3** reinforcement learning models to optimize network communication
- Leveraged **NumPy**, **Pandas**, and **Matplotlib** to present data analysis to **U.S. Army Futures Command's UTDD**

Fidelity Investments - *Software Engineer Intern*; Westlake, TX Jun 2024 - Aug 2024

- Enhanced batch responsible for **millions of updates** to central DB with **AWS Q Developer**, **SQL**, & **MyBatis**
- Accelerated processing by **20%** by migrating 30+ files from C++ to Java for multithreading, scalability, and cloud integration

PROJECTS

RestoreAI | *Python, Pandas, NumPy, Random Forest, Gemini AI, React, JavaScript, RESTful APIs*

- Built **Random Forest ML model** using **Python**, **Pandas**, and **NumPy** to optimize restorationists' seed planting
- Streamlined user data collection by implementing conversational interface with **Google Gemini API** prompting and function calling
- Ensured fast and secure LLM response times by integrating **RESTful APIs** with the frontend, database, Gemini API, and model

Operating System & Graphics | *C++, Python, Assembly, QEMU, Bash, Linux, Multi-threading*

- Developed interrupt handling with O(1) helper threads and core system calls like fork, wait, semaphores, and thread operation
- Engineered **virtual memory** and **Ext2** file system components with page directories and third-level indirection
- Designed graphics subsystem using **VBE**, integrating assembly MBR programming and **Python** video frame conversion

Search Engine | *Java, Attoparser, Spring Boot, Data Structures, Trees, Algorithms*

- Implemented query tree handling complex searches with logical operators and a **custom ranking algorithm** for search results
- Designed a **Java** web crawler to parse and index web networks, using **Attoparser** to build a search database of HTML content

LEADERSHIP EXPERIENCE AND ACTIVITIES

Texas Infinites - *Gender Inclusive Spirit and Service Organization, Recruitment Committee*; Austin, TX Jan 2025 - Present

Texas Product Engineering Organization - *Engineering and Product Fellow*; Austin, TX Sept 2024 - Present

- Developing webcrawlers and webpages for Austin-based nonprofits with **React**, **Python**, **PHP**, **REST**, **Vercel**
- Developed and hosted WeatherApp, TodoApp, and **Locus** (study and real-time location app) with **Firebase**, **TS**, and **NodeJS**

Texas Convergent - *Forge Tech Member, Meals on Wheels and Cura Project Intern*; Austin, TX Aug 2023 - Sept 2024

- Trained **Gradient Boosted Decision Trees** with **20+** mental health conditions, managing data with **Supabase**, **FastAPI**, **SQL**
- Deployed **React** app and **Python/Flask** backend for **50+** drivers, integrating **Salesforce (SOQL)** for maps and task updates

ADDITIONAL INFORMATION

Technical Languages: Python, C++, C, Java, JavaScript, TypeScript, C#, R, SQL, SOQL, CQL, HTML, CSS

Tools: PyTorch, Tensorflow, Scikit-Learn, Pandas, NumPy, NLTK, spaCy, BERTopic, React (Native, Redux), Snowflake, AWS, Next.js, Vue, Matplotlib, Apache Cassandra, MyBatis, Firebase, Flask, FastAPI, Salesforce, Linux, Postman, Agile, Scrum, Docker

Certifications: Eagle Scout | Azure AI Fundamentals | NLP & Text Mining by Simplilearn

Interests: Singing & Guitar, Camping, Portrait Drawing, Sustainability, Minecraft, Anime, Volleyball, Soccer, Ping Pong

Languages: Native in English and Telugu, Conversant in Spanish