

Hrishi Kabra

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Education

Tulane University | School of Science and Engineering

Present — May 2028

Bachelor of Science, Major: Computer Science and Mathematics

New Orleans, LA

- Minor: Artificial Intelligence and Business | GPA: 3.95/4.0 | Dean's List | Alpha Kappa Psi Business Fraternity
- South Asian Scholar (merit-based full tuition award - \$67,000 per year), First Year Honors Scholar
- Relevant Coursework: Algorithms, Data Science, Linear Algebra, Multivariate Calculus, AI Engineering

Experience

Niyogin AI

June 2025 — July 2025

AI Intern

Mumbai, India

- Developed and shipped a production-grade, end-to-end NLP pipeline using custom SpaCy named entity recognition (NER) to reliably extract structured information from noisy OCR output across financial and identity documents
- Achieved ~97% extraction precision and automated KYC and form digitization workflows to reduce manual review
- Engineered a Python-based document processing workflow to convert diverse multi-format and scanned bank statements into structured, query-ready Excel reports, streamlining downstream data ingestion and analysis

Tulane University Department of Computer Science

August 2025 — Present

Teaching Assistant

New Orleans, LA

- Spring '26 – CMPS3160: Introduction to Data Science; Fall '25 – CMPS1500: Introduction to Computer Science I
- Facilitate weekly lab sessions and office hours for 50+ students, delivering hands-on instruction in Python programming, data analysis, pandas, and core computer science concepts to diverse student cohorts
- Collaborate with faculty to review course materials, design assignments, and provide structured feedback to reinforce and deepen student understanding of analytical and programming fundamentals

Tulane Data and Artificial Intelligence

July 2025 — Present

Research Assistant

New Orleans, LA

- Co-authored paper accepted at AAMAS 2026 (Conference on Autonomous Agents and Multiagent Systems)
- Designed and optimized positional scoring models using simulated annealing, gradient descent, and mixed-integer programming (MIP) to optimize decision outcomes over large-scale preference datasets
- Contributed to the `optimal_voting` Python package and Django web interface, enabling researchers to find and compare interpretable, optimal positional scoring rules across four social welfare functions

Projects

F1 Rule & Penalty Interpreter | *Python, Gradio, LLM APIs, RAG*

February 2026 — Present

- Engineered an end-to-end LLM-powered system over 1000+ FIA regulation and steward decision PDFs, enabling retrieval and generation of rule-grounded explanations for Formula 1 incidents through a RAG-based pipeline
- Designed evaluation pipelines and conducted GenAI Ops experiments on chunking, embedding retrieval, and context size, improving citation coverage from 60% to 93% while analyzing trade-offs between recall, noise, and reliability

Reefguardian | *Python, AWS (S3/Glue/Athena)*

September 2025 — Present

- Designing a serverless AWS data pipeline to ingest and process NOAA global Sea Surface Temperature (SST) datasets at scale, enabling real-time visualization of coral bleaching hotspots for marine researchers
- Building automated ETL workflows using AWS Glue and Athena to support structured querying and low-latency retrieval of large-scale oceanographic datasets, minimizing manual data intervention and errors

FishID | *Python, Flask, Next.js, TypeScript, SQLite* | ([fishid.vercel.app](#))

June 2025 — Present

- Built and deployed a full-stack web application that classifies fish species from user-uploaded images, integrating Fishial and Groq AI APIs through a RESTful Flask backend with a persistent fish identification log
- Implemented JWT and bcrypt authentication with split deployment across Vercel and Render for persistent storage

Skills and Interests

Languages: Python, Java, C, C++, JavaScript, TypeScript, SQL, R, Assembly, HTML/CSS, Bash

Technologies: React, Next.js, Flask, Django, PyTorch, Pandas, AWS (S3, Glue, Athena), Docker, SQLite, Git

Concepts: Data Structures & Algorithms, REST APIs, Prompt Engineering, NLP, RAG, LLM Agents, Optimization, MLOps, ETL & Data Pipelines, Full-Stack Development, Systems Programming, Cloud Data Engineering, Fine Tuning

Spoken Languages: English (Fluent), Hindi (Fluent), German (Conversational)

Certifications: PADI Master Scuba Diver, PADI Rescue Diver, Emergency First Responder

Interests: Scuba Diving, Underwater Videography, Formula 1, Wordle, Monopoly, Strategy Games