RAJIT GOEL

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Education

University of Texas at Dallas   **August 2022 – May 2026**
Bachelor of Science in Computer Science | GPA: 3.965/4.0   *Richardson, TX*

- CS^2 Honors Program
- Certificate in Applied Experience Design and Research
- Goldman Sachs Excellence in Computer Science Scholarship recipient
- Capital One Scholarship in Applied Experience Design and Research recipient

Professional Experience

Cinemark Theatres   **June 2025 – August 2025**
Data Science Intern   *Plano, TX*

- Analyzed theater demographic data (income, ethnicity, age) using Python (pandas, scikit-learn) and SQL to identify trends in Food & Beverage performance across 300+ locations
- Built K-Means clustering models to segment theaters and compared key KPIs (per cap, incidence rate, occupancy) across clusters to inform pricing and promotional strategies
- Conducted targeted release analysis to assess the impact of specific movie launches on F&B spending behavior across demographic segments
- Performed market basket analysis with SQL and Excel to uncover high-value product pairings and upsell opportunities, improving combo design recommendations
- Designed and delivered executive presentations with data visualizations in Power BI, Excel, and matplotlib, translating complex findings into actionable business insights
- Collaborated cross-functionally on "Pop & Top" initiative, leveraging guest surveys and international sales data to develop a business case for topped popcorn offerings

Thomson Reuters   **May 2024 – August 2024**
Software Engineer Intern   *Frisco, TX*

- Developed RESTful APIs in C# ASP.NET for tax form validation, improving efficiency and cutting processing time by 10–15%
- Refactored validation logic into modular C# components, reducing turnaround from weeks to near real-time
- Queried large datasets in SQL Server Management Studio, ensuring accurate integration of complex validation rules
- Converted legacy XML rules into modern XSLT, streamlining integration with current platforms
- Collaborated with a global Agile/Scrum team (Canada, India, Mexico, Russia), managing Git-based version control for reliability

Projects & Research

AI Sound Effects Generator - Auralis | *Next.js, Flask, PyTorch, PostgreSQL, Gemini API*   **June 2025 – Present**

- Created an AI sound generation platform that produces studio-quality effects from text prompts, powered by PyTorch AudioLDM latent diffusion models for real-time synthesis with CUDA acceleration and CPU fallback
- Integrated Google Gemini 2.5 Flash API for adaptive prompt refinement, enhancing the diversity, realism, and coherence of generated audio outputs
- Built a Next.js 15 frontend with Supabase authentication, Row Level Security (RLS), and Google OAuth, providing personalized user sessions and secure content management
- Architected a Flask REST API backend optimized for low-latency streaming, blob storage, and CORS-compliant delivery, ensuring smooth cross-browser performance
- Designed PostgreSQL schemas with triggers, analytics tracking, and indexed queries supporting a public sound library, like system, and real-time engagement metrics

AI-Powered Whiteboard - Ideate | *React, Next.js 16, TypeScript, PostgreSQL, NVIDIA Nemotron API*   **November 2025**

- Engineered an AI-powered ideation platform that transforms hand-drawn sketches and written concepts into structured product blueprints, including flowcharts, business pitches, competitive analyses, and 90-day roadmaps
- Integrated the NVIDIA Nemotron API (vision + text models) using a dual-model architecture to interpret sketches, extract features and user flows, and generate coherent product narratives
- Built an interactive whiteboard in React, Canvas API, and perfect-freehand, enabling precise drawing, shape recognition, undo/redo, and real-time manipulation of visual elements
- Developed Next.js 16 + TypeScript REST APIs for AI workflows including sketch analysis, Mermaid diagram generation with syntax validation and retry logic, automatic pitch creation, and competitor market analysis
- Designed PostgreSQL schemas with Supabase for persistent canvases, Row Level Security (RLS), and Google OAuth-based session management
- Deployed the full-stack application on Vercel using serverless functions for AI endpoints, optimizing performance and minimizing latency for sketch-to-insight generation
- Award: Earned top-5 recognition (Honorable Mention, NVIDIA Track) out of 100+ projects at HackUTD 2025 for innovative multimodal AI integration and end-to-end product ideation automation

PreFace - Redesigning the Hiring & Onboarding Experience | *Figma, React, UX Research*   **August 2025 – December 2025**
- Partnered with Fisher Investments for ATCM 4341 (Applied Experience Design capstone) to reimagine recruitment by replacing traditional cover letters with interactive, role-specific courses
- Designed dual-sided platform: applicants complete skill-building modules earning verifiable certificates; employers review detailed assessment breakdowns across technical proficiency, soft skills, and values alignment
- Conducted user research, developed personas, created high-fidelity Figma prototypes, and built React frontend components for applicant dashboard, course progression, certificate sharing, and HR portal
- Enabled actionable hiring insights through structured assessments and match scoring, reducing candidate apathy and bias in traditional resume-based screening

Project Pawkour | *Unity, C#, UI Design, Figma, OpenGL*   **August 2025 – December 2025**
- Built a third-person parkour game where players control a cat escaping from a secret laboratory through a low-poly environment
- Developed custom C# scripts for physics-based movement mechanics including running, jumping, dashing, and wall-running
- Implemented camera system with smooth following and adaptive positioning based on player movement and velocity
- Designed complete UI system including menus, HUD elements, and interactive components; scripted all UI functionality and interactions
- Created storyboards defining game narrative, level progression, and player experience flow from start to escape
- Integrated adaptive music system that intensifies based on player velocity, enhancing immersion during high-speed parkour sequences

Aegis - Privacy Shopping Browser Extension | *JavaScript, Chrome API, Supabase*   **August 2025 – December 2025**
- Built a web extension for CS 4352 (HCI) that aggregates e-commerce reviews across the web, computes trust & review scores, and uses those scores to conditionally autofill or withhold sensitive user information
- Implemented popup UI, content scripts, and background service worker (Manifest v3) to inject safety indicators into shopping flows and surface visual trust cues (e.g., charts for risk levels)
- Integrated RESTful API with Supabase (PostgreSQL, authentication, RLS) for storing and retrieving review/usage data
- Designed HCI-focused UX flows including clear risk feedback, consent affordances, and data usage history views

Designing for Real Inclusion at UTD - HCI Research | *Qualitative Research, Figma, UX*   **January 2025 – May 2025**
- Investigated nonbinary students' campus experiences after 28% reported not feeling a sense of belonging
- Conducted qualitative interviews revealing students discovered resources only through informal networks and existing policies lacked enforcement
- Proposed interventions including a centralized LGBTQ+ resource hub/map, anonymous feedback system for misgendering incidents, identity change guide for campus systems, and inclusive event feed with notifications
- Presented findings and design recommendations to UTD faculty and administration, emphasizing shift from performative to structural support

Leadership and Involvement

Chinese Student Association (CSA @ UTD)   **January 2025 – Present**
Design Lead & Family Head   *Richardson, TX*
- Led creative direction for one of UTD's largest cultural organizations, designing in Figma t-shirts purchased by 200+ members and creating social media posts featured across CSA's Instagram
- Mentored "fam" group of first-year students, coordinating bonding activities, competitions, and collaborative initiatives across 50+ members

HackMate   **January 2025 – May 2025**
Frontend Engineer   *Richardson, TX*
- A web platform designed to connect hackathon participants, enabling team formation, project collaboration, and event networking
- Developed frontend components using React, CSS, and Figma to deliver a consistent and engaging UI/UX
- Implemented navigation menus, group management tools, and contact forms integrated with backend APIs for dynamic content

Nebula Labs   **August 2023 – January 2024**
UI Designer   *Richardson, TX*
- Designed and iterated UI prototypes in Figma for Jupiter, a platform connecting students with campus organizations
- Partnered with developers and peers to translate user research into intuitive flows, ensuring designs aligned with technical feasibility and product goals

STEMpump   **June 2020 – September 2022**
Head of Media   *Remote*
- Led branding and marketing for a student-run STEM education nonprofit
- Created and taught a Python AI & TensorFlow course; produced educational videos and social media content
- Managed a media team and coordinated with developers to maintain consistent branding across all platforms

Technical Skills

Languages: C#, C/C++, Python, Java, JavaScript/TypeScript, R, SQL, HTML/CSS, MIPS Assembly, Verilog, XML, XSLT
Frameworks & Libraries: ASP.NET, React.js, Next.js, Node.js, Flask, PyTorch, TensorFlow, scikit-learn, pandas, matplotlib
Developer Tools: Git, GitHub, Visual Studio Code, Android Studio, SQL Server Management Studio, Azure, Heroku, Vercel
Databases: PostgreSQL, MySQL, Supabase
Design Tools: Figma, Adobe Photoshop, Adobe Premiere Pro, AutoCAD
Other Skills: Data Analysis, Machine Learning, UI/UX Design, Interaction Design, Computer Networking, Operating Systems, Agile/Scrum, RESTful APIs, Power BI, Excel

Relevant Coursework

- Computer Science II
- Discrete Math I/II
- Linear Algebra
- Data Structures & Algorithms
- Computer Architecture
- Software Engineering
- Database Systems
- Operating Systems
- Digital Logic
- Artificial Intelligence
- Automata Theory
- Computer Graphics
- Human-Computer Interaction
- Interaction Design