

Elie Jerjees

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EDUCATION

Davidson College

Bachelor of Science in Computer Science, Minor in Data Science

Davidson, NC

Expected May 2028

- Coursework: Data Structures, Computer Organization, Discrete Structures, Linear Algebra, Programming and Problem Solving
- Honors: QuestBridge Scholar (Full Tuition Scholarship), Bernard Society of Mathematics, Society of Physics Students

EXPERIENCE

Artificial Intelligence Innovation Initiative

Davidson, NC

AI Innovation Fellow

August 2025 - Present

- Designed agentic AI systems using Claude, ChatGPT, and Gemini, integrating APIs for reasoning, tool use, and contextual memory
- Developed task-specific AI agents for book translation, documentation generation, and citation correction using LLMs
- Contributed to campus AI policy discussions by researching best practices and advising on responsible use of generative AI

Computer Science & Image Analysis Research

Davidson, NC

Undergraduate Research Assistant

May 2025 - July 2025

- Developed a Java ImageJ plugin to analyze 500+ grayscale image stacks of *C. elegans* neurons using tracing and particle analysis
- Engineered a decay detection algorithm that reduced false positives in dendrite terminal classification by 25%
- Automated preprocessing pipelines (normalization, filtering) to improve region detection consistency across 100+ datasets
- Designed visual outputs (overlays, histograms, annotations) that accelerated researchers' interpretation of neuron data

Technology and Innovation

Davidson, NC

Makerspace Technician

August 2024 - Present

- Operate and maintain 3D printers, CNC machines, and laser cutters, resulting in a 15% reduction in equipment downtime
- Support 50+ student projects per semester by training peers on fabrication tools for successful prototyping and iterating

PROJECTS

Spotify Lyric Translator | LingualSync

Charlotte, NC

- Built a Python FastAPI-based web application integrating the Spotify Web API to synchronize lyric display with real-time playback
- Integrated the LRCLIB and Google Translate APIs to translate timestamped lyrics while preserving line-level synchronization
- Implemented backend logic to manage authentication, caching, and rate limits, ensuring reliable request handling

Club Finance Management Platform | Fundaro

Charlotte, NC

- Built a React with SQL budget management app for clubs to track expenses, monitor balances, and ensure financial transparency
- Integrated OCR with Cloud Vision and Gemini for receipt scanning, automatic categorization, and detailed spending analysis

Card51 | Card51

Charlotte, NC

- Built a JavaScript-based card game engine implementing a custom ruleset for meld validation, scoring, and turn-based gameplay
- Designed modular game logic and state management to support dynamic card grouping, wildcard handling, and player exchange
- Enforced game rules and edge-case handling for complex scenarios such as reclaiming cards and validating active groups

IdeaSprint | MultiHealthCare

Davidson, NC

- Built a web platform aggregating multilingual healthcare and insurance resources with interactive mapping and filtering
- Pitched at IdeaSprint and awarded second place, demonstrating strong user need and real-world problem relevance

LEADERSHIP AND INVOLVEMENT

Diversity in Science and Computation (DISC)

Davidson, NC

Founder and President

August 2025 - Present

- Established a student network for diversity, equity, and inclusion in CS and STEM, recruiting 40 members in the first semester
- Lead technical and behavioral interview prep sessions for 15+ students, building professional development and career readiness
- Coordinate partnerships with faculty and student groups to strengthen resources and expand the reach of DISC initiatives

Davidson Entrepreneurship Club

Davidson, NC

Treasurer

February 2025 - Present

- Secure funding from Davidson ATC, NC IDEA, Truist Charitable Fund, and private donors totaling more than \$20,000, enabling the successful execution of Techstars Startup Weekend, IdeaSprint, and multiple entrepreneurial initiatives on campus
- Manage the student association's budget, process reimbursements and expenses, and maintain accurate financial records
- Streamline logistics for major events, such as Techstars and IdeaSprint, including sponsor outreach and mentor recruitment

Davidson QuestBridge Chapter

Davidson, NC

Community Enrichment Chair

September 2024 - Present

- Facilitate a mentorship program connecting upperclassmen with first-year students to support first-gen and low-income success
- Organize 8-10 annual community events, averaging 40 attendees, with holiday programs engaging up to 100 students

SKILLS

Java, Python, C++, C, React, TypeScript, JavaScript, SQL, HTML, CSS, AI Integration, Computer Vision, Image Processing, OCR, Git