

SANJANA RAJ

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EDUCATION

Dartmouth College, Hanover, NH

June 2025

Bachelor of Arts, Major in Computer Science: Minor in English:

GPA 3.91/4.0

Relevant Coursework: Algorithms, Discrete Mathematics, Software Design and Implementation, Privacy and Security, Foundations of Applied Computer Science, Problem Solving via Object-Oriented Programming, Travel, Migration, & Diaspora, Geographies of Displacement, Global Race x Global Migration, Developing Vietnam, Philosophy of Space and Time, Critical Issues in Postcolonial Studies

Activities: Center for Social Impact, Women in CS, DALI Lab, Dartmouth Digital History Initiative, Student Activism for Asian American Studies, Mental Health Union, Orchestra

English Study Abroad Program, London

December 2023

Spent September-December 2023 studying at Queen Mary's University of London. Completed coursework in creative writing, Victorian Fictions, and urban studies of London, as well as a short story collection focused on British Imperialism.

RELEVANT EXPERIENCE

Develop for Good, Remote

November 2023 – Present

Product Manager

- Selected (with 13% acceptance rate) to work under professional mentors to develop tech solutions with real-world impact for nonprofits
- Managed team of 10 in the development of a full-stack app (React and Firebase) for social entrepreneurs in the Philippines
- Translated user research to requirements, wrote guidelines for documentation and testing, and designed dataflow architecture

Digital Applied Learning and Innovation (DALI) Lab, Hanover, NH

January 2023 – Present

Project Manager

- Leads 5-7 member student teams of UI/UX designers and developers to create apps and websites for external clients in 10-week lifecycles
- Directs team meetings, and ensures that communication between developers and clients balances stakeholder interest with lab constraints
- Manages the development of software through organized sprints in Agile, Git, and Notion, and executes timely solutions to project roadblocks, leading to successful handoff of 4 projects, including managing transfer of credentials and troubleshooting lingering issues.

Dartmouth English and Computer Science Departments, Hanover, NH

June 2023 – Present

James O. Freedman Presidential Research Scholar

- Researching critical code studies, computational formalism, and interpretability of machine learning with Professor James Dobson
- Created neural language models using Numpy, Pandas, Hathi Trust's FeatureReader, and Sklearn in Jupyter Notebook
- Received \$5800 in funding to conduct independent research on the downstream implications of bias and toxicity in LLMs, designing my own narrative-based experiment utilizing HF's evaluate module and attention visualizations to compare Mistral, Llamas, and GPT-2

Team4Tech, San Francisco, CA

June 2022 – August 2022

Growth Team Intern

- Designed a course on Artificial Intelligence and education for Team4Tech's global community of practice, receiving positive engagement from over 100 teachers and NPO leaders in countries such as Somaliland, Saudi Arabia, and Ghana,
- Created an Airtable database of past EdTech project deliverables for nonprofit partners along with recommendations for use cases, enabling T4T to scale and repurpose them for future NPO partners, greatly increasing overall impact and decreasing redundancy.
- Conducted funding research, and assisted in writing grant proposals, allowing T4T to build capacity and expand their net of partners

PROJECTS

- AR Difficult Airways:** Worked with ER Surgeons at Dartmouth Hitchcock Medical Center and the DALI Lab to begin development on a high fidelity, easily transportable and scalable augmented reality difficulty airway and normal intubation simulation model that can be used by EMTs and other members in emergency medical services who are limited by time, budget constraints, or distance from DHMC.
- Nuggets:** Worked on a 3 person team in agile sprints, and in C, to create a dungeon-type client/server game in which up to 26 players simultaneously explore a set of rooms and passageways in search of gold nuggets. This involved designing an algorithm to determine player-specific visibility, utilizing multithreading and logging messages.
- Tiny Search Engine:** Designed and wrote a simple search engine in C, consisting of 3 subsystems to crawl, index, and query webpage content. This built familiarity with writing design and implementation docs, makefiles, dynamically allocating memory, and using debugging tools such as gdb and valgrind.
- Neural Network Handwriting Identifier:** Created a Python neural network using Matplotlib and Numpy to predict number labels associated with handwritten labels, utilizing fundamental linear algebra concepts, and wrote a brief technical report to explain code implementation and experiment setup, network performance, and failure cases.

SKILLS & INTERESTS

Programming Languages: Python, C, Java, HTML, CSS, React, MySQL, Unix/Linux

Additional Technical Skills: Data Structures and Algorithms, Source Control via Git and Github, Agile/Scrum Methodology, Discrete Math, Linear Algebra, PyTorch, SkLearn, TEI and XML Schema, Public Speaking, Project Management, Object Oriented Programming

Additional Interests: Artificial Intelligence, Social Impact, Creative Writing, History, Orchestra, Diaspora and Migration, Digital Humanities