

Duane Gennaro

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EDUCATION

San Diego State University (SDSU)- San Diego, CA,

August 2023 – May 2027

Bachelor of Science, Computer Science

GPA: 3.6/4.0

- Dean's list: Spring 2024

Relevant Courses: Data Structures (CS 210), Algorithms (CS 460), Computer Architecture (CS 370), Discrete Math (Math 245)

TECHNICAL SKILLS

Programming Languages: Java, C++, Python, JavaScript, C, Assembly, HTML, CSS

Frameworks: Node.js, Express.js, React.js

PROJECTS

Office Hours - Python, HTML, NODE.JS, REACT.js, CSS

Summer 2025

- Created a Canvas-LMS plug-in to use an LLM(Google Genai) to tutor students in their respective courses.
- Automated data extraction, preprocessing, and embedding of course materials, with the purpose of storing it in a vector database.
- Designed an interactive front-end that takes in prompts and displays LLM responses.
- Implemented Retrieval-Augmented Generation (RAG) to pull relevant data based on the prompt and feed that data to the LLM. Creating responses that are as course and material accurate as possible.

Quiz Application - Java

Summer 2024

- Engineered a Graphical User Interface (GUI) to make the program more organic and fun as a study tool.
- Produced an algorithm that calculates the score after each quiz, and provides users with the option to review all incorrect answers, displaying both their selected answer and the correct one.
- Created to help students study while increasing their understanding of how everyday problems could be solved using computers, research, and imagination.
- While taking four summer classes and working 40 hours a week, this application helped me earn an average grade percentage of 95.4%.

WORK/ LAB EXPERIENCE

Researcher & Developer

Code Research Lab | San Diego, CA

June 2025 – Present

- Investigated a cutting-edge AI method known as RAG, analyzing architectures and evaluating their effectiveness for file retrieval and response generation.
- Testing different implementations of different vector databases, embeddings, and file management systems, to make storage, retrieval, and processing files as efficient and reliable as possible.
- Researched Learning Tool Integrations (LTIs), assessing integration methods with Learning Management Systems (LMS).
- Explored modern and old web development frameworks, tools, and libraries, in the process of prototyping interfaces to support research projects.
- Pulling all the research together to create an LTI known as Office Hours.

Calculus 1, Calculus 2, Business Calculus Supplemental Instruction (SI) Leader

SDSU | San Diego, CA

February 2024 – Present

- Collaborating with colleagues to improve group learning and studying, also providing attendees with a 50% better chance of passing the class and an average of 10% higher overall grade.
- Guiding students through activities designed to help them fully understand the most challenging concepts in calculus.
- Attending lectures to refine my understanding of the material.

Software Engineering Externship

JPMorgan Chase & Co. / Remote

September 2024 – Oct 2024

- Designed and optimized stock price data pipelines, enhancing data processing speed by 25%.
- Developed a responsive web app with React and TypeScript, enhancing UI performance by 30%.
- Integrated a rest API into our program to experiment with the effects of inflation on prices and purchasing decisions within a community.