

# Francis Fernandez

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## Education

### Bachelor of Science: Computer Science

2021-2025

San Diego State University

Senior Standing – Cum. GPA: 3.76

- Minor in Interdisciplinary Studies; 3 semesters on Dean's List
- Activities and Societies: Weber Honors College, Artificial Intelligence Club (Vice President), SDSU Rocket Project, French Club
- Relevant Coursework: Database Theory and Implementation, Computer Architecture, Algorithms, Introduction to Artificial Intelligence, Operating Systems, Statistical Principles and Practices, Multivariable Calculus
- Exchange Abroad at INSA Lyon: Signal and Image Processing, Computer Networks, Databases and Data Mining

## Relevant Work Experience

### Student Researcher

September 2023 – February 2024

La Laboratoire CREATIS @ INSA Lyon

- Explored how the **YOLOv8** and **U-Net segmentation** algorithm performs on MRIs for Multiple Sclerosis lesions
- Wrote a **technical paper and defended my research** with my professor at INSA Lyon
- Research will be continued by a master's student and results will be submitted to the MIDL conference

### Research Assistant

October 2022 – May 2023

CS Education Lab @ SDSU

- Ran analysis in a team on the SCS1 assessment to locate various levels and **types of bias** within the assessment
- Analyzed and ran **statistical hypothesis tests** on the Assessment of Computing for Elementary Students (ACES)
- Cleaned data using metrics to identify **undesirable data and statistical outliers**

## Relevant Projects

### Discord Chatbot Powered by AI

February 2024 – April 2024

From: AI Club @ SDSU

- Explored various LLMs on **Hugging Face** for NLP tasks, coordinating with other members to combine pipelines
- Implemented our pipelines using discord's **python API wrapper**, administrating changes using GitHub
- Led a **team of 5** by organizing meetings, creating tutorials for team members, and documenting our progress

### Datamining the YouTube Content Delivery Network

November 2023 – December 2023

From: Data Mining @ INSA Lyon

- Performed **frequent pattern mining** using a correlation matrix as a form of preprocessing our data
- Trained a **Decision Tree** model and a **Random Forest** classifier for supervised classification
- Utilized **K-Means clustering** and **DBSCAN** for unsupervised clustering

### Natural Language Processing with Canvas Discussion Boards

February 2023 – April 2023

From: AI Club @ SDSU

- Fine-tuned OpenAI's **GPT-3 model** on data we **scrapped and formatted** from discussion boards on canvas
- Led a **team of 3** by organizing meetings, collaborating with other team leaders, and teaching my team members
- Competed in the end of semester competition against two other AI projects and **won best project**

## Skills and Activities

- Proficient in Java, Python, R, and Pytorch
- Knowledgeable in C, C#, C++, SQL, Tensorflow
- French: B1 CEFR Level
- Building tutoring and teaching skills since 2019