

# Vincentius Daniel Budidharma

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## EDUCATION

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### University of California San Diego

*Bachelor of Science in Data Science, GPA: 4.0*

*Sep. 2023 - March 2027*

## SKILLS

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**Languages:** Java, Python, SQL, MATLAB, C++, HTML/CSS

**Developer Tools:** Git, Docker, TravisCI, Google Cloud Platform, VS Code, Visual Studio, PyCharm, IntelliJ, Eclipse

**Libraries:** Pandas, NumPy, Matplotlib

## PROJECTS

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### Foodbook

2024

- Worked in a team of 4 to develop Foodbook, an app that scans menu items and categorizes them based on their health
- Built the main functionality, used PyTesseract OCR to convert images of menus into text, utilized fuzzy matching to match menu item names with food item names in the dataset
- Used Pandas and sklearn K-Nearest Neighbors to categorize the food items into different health categories

### Research Paper: Simple Piezoelectricity-based Heart Rate Monitor

May 2018 – May 2020

- Wrote a research paper on the development and performance of a piezoelectricity-based heart rate monitor
- Designed and built using an Arduino and a 16-bit ADC to gather the patient's pulse signal
- Cleaned the signal using a moving average filter and used Python to calculate the patient's heart rate
- Achieved readings with a less than 5% margin of error compared to commercial oximeters
- Modeled a sigmoid function to project that if 10,114 of this device were mass produced, its price would be equal to the price of commercially available oximeters
- Presented the results using simplified terms and comprehensive explanations to a layman audience of 20 people

### MySQL User Input Form Webpage

2024

- Built and designed a webpage locally hosted with XAMPP that stores user inputs into a MySQL database
- Used PHP and SQL queries to display and edit the data in the database through the HTML webpage

## EXPERIENCE

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### Undergraduate Data Science Tutor

March 2024 – Present

*University of California San Diego*

- Tutored for DSC10: Principles of Data Science and DSC30: Data Structures and Algorithms
- Explained concepts in Java, Python, Pandas, probability theory, hypothesis testing, and standard data structures and algorithms to an average of 5 students per week through office hours
- Studied students' code and helped debug them
- Authored detailed solution guides for past exams and published them to the practice website and github (<https://practice.dsc10.com/wi24-final/index.html>)
- Beta-tested 6 hour long final projects and 3 hour long final exams, giving helpful feedback to improve the questions which got implemented by the instructor

### Coordinator for English Debate Competition

2023

*Canisius High School*

- Appointed by the student council to organize the English Debate category of an annual public event comprised of multiple competitions and participated by over 100 schools
- Managed the schedule, budget, and location of the competition, coordinating with other committee branches to prevent conflicts
- Communicated event details to over 48 participants through presentations, social media, and a central Google Drive folder
- Managed and trained over 20 committee members to become liaison officers