

# Vedant Patel

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## EDUCATION

### University of California Davis

Jul 2022 – Jun 2025

*Bachelor of Science (B.S.) in Computer Science and Engineering, Minor in Technology Management*

*Davis, CA*

- Data Structures & Algorithms, Objects & Design, Computer Organization & Programming, Combinatorics, Machine Learning, Artificial Intelligence, Object-Oriented Programming, Statistics, Embedded Systems

## EXPERIENCE

### Undergraduate Research Assistant

Feb 2024 – Present

*UC Davis*

*Davis, CA*

- Achieved efficient binary classification of ECG signals with **92.8% accuracy** by **ensemble Random Forest Classifier (TinyML)** while significantly enhancing battery life through efficient low-power algorithms.
- Employed **advanced feature engineering** and **XGBoost** ensemble modeling, achieving a remarkable **93.6% accuracy** in predictive analysis through fine-tuning and strategic **hyper-parameter optimization** with **GridSearchCV**, enhancing the robustness of anomaly detection.
- Implemented **SHAP and LIME** techniques to refine **Multi-layer Perceptron, Deep Neural Network, and Recurrent Neural Network** machine learning models for time-series data, resulting in a **7% accuracy boost** ensuring optimal operation in constrained wearable device environments.

### Data Science Intern

Oct 2021 – Dec 2021

*ArtifIntel Pvt. Ltd.*

*Bengaluru(Remote), India*

- Executed comprehensive **data preprocessing** and transformation on inconsistent datasets, employed **classification and regression** techniques for training supervised learning models to achieve an impressive **98% accuracy**.
- Created detailed visual reports with **Matplotlib and Seaborn**, enhancing data interpretability and enabling a **25% improvement** in strategic planning accuracy across multiple departments.

## LEADERSHIP

### Project Manager

Jan 2024 – Apr 2024

*CodeLab*

*Davis, CA*

- Led the Summarizit project team to develop an innovative web application that analyzes and summarizes extensive video content, resulting in a **40% increase in user productivity and information accessibility**.
- Engineered scalable web applications with **NextJS, Express**, and **MongoDB** optimizing **CRUD routes** to increase data retrieval speed by **40%** and enhance overall system performance by **25%**

### Technology Director

Sep 2023 – Present

*Google Developers Student Club (GDSC)*

*Davis, CA*

- Spearheaded AI/ML projects including a music recommender and medical chatbot, while organizing industry expert lectures, resulting in **35% increase in user engagement** and **40% growth in professional network**.

## PROJECTS

### Financial Assistant AI | *NextJS, Javascript, TailwindCSS, Vercel, Prisma, Postgres*

Jun 2024 – Present

- Spearheaded the development of an AI-driven personal finance web application, integrating machine learning algorithms to provide predictive financial analysis with **90% accuracy and optimize portfolio performance by up to 15%**.
- Engineered a full-stack solution featuring an intelligent chatbot with 95% user query resolution rate, and data visualization tools that **reduced financial decision-making time by 30%**.

### EduParse | *Python, React, Flask, AWS*

Apr 2024 – Present

- Engineered a Chrome extension that generates customizable practice exams from PDF lecture notes, resulting in a **60% increase** in study efficiency for users and deploying the application on **AWS for scalable cloud-based functionality**.

### Scream Detection Deep Neural Network | *Python, MLP, Deep Learning, React*

Apr 2023 – Apr 2023

- Developed and deployed **SVM regression** and **Multi-Layer Perceptron (MLP)** models for real-time distress call detection, achieving an overall accuracy rate of **93%** by distinguishing acoustic level differences.

## TECHNICAL SKILLS

**Languages:** Python, C/C++, Java, JavaScript, HTML5/CSS3, R, MATLAB

**Frameworks:** Next.js, Postgres, Prisma, Vercel, .NET, React, Node.js, Flask, WordPress, Material-UI, MongoDB, AWS

**Developer Tools:** Git, Docker, Google Cloud Platform, VS Code, PyCharm, Eclipse, TensorFlow, Jupyter