

JAY GALA

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EDUCATION

**Dwarkadas J. Sanghvi College of Engineering
(Mumbai University)**

B.E. in Computer Engineering

Applied Mathematics, Discrete Mathematics, Algorithms, Databases, Machine Learning, Artificial Intelligence,
Natural Language Processing

2017 - 2021 (expected)

Overall GPA: 9.86/10

EXPERIENCE

University of California San Diego

Research Intern

June 2021 - Present

Guide: Dr. Pengtao Xie

- Working on applying humans' learning skills for Neural Architecture Search
- Technologies: Python, PyTorch

Tata Consultancy Services

Machine Learning Project Intern

Dec 2019 - Feb 2020

- Developed NLP language models for customer analysis to prevent customer churn
- Prepared custom dataset, created surveys to handle open-ended and closed-ended questions
- Extracted feedback responses from handwritten forms using OCR
- Technologies: Python, Keras, NLTK, Gensim, OpenCV, NumPy, Pandas

Ucadd EdTech

Web Developer

Dec 2018 - Aug 2019

- Built a platform for the organization's instructors to build courses
- Introduced data analytics to generate useful insights regarding the courses for the instructors
- Technologies: ReactJs, NodeJs, ExpressJs, MongoDB

Sensum Fintech

Web Developer

Jan 2019 - Feb 2019

- Constructed visualization graphs using plotly to show the trends in the finance trading markets
- Integrated APIs for stock recommendations and improved user experience by optimizing the builds
- Technologies: ReactJs, Material UI, Plotly

Unicode

Web Developer & Student Mentor

Aug 2018 - June 2021

- Mentored a team of sophomores on projects such as Inventory Management, Masters and Placement Portals
- Conducted workshop on web and open-source development for over 100 students in the college
- Technologies: ReactJs, NodeJs, MongoDB, Django, MySQL

PROJECTS

Ocubot - Image-based Dialog for Visually Impaired

Guide: Dr. Pratik Kanani

- Incorporate knowledge from perception and language to have more natural conversations
- Reduced modality biases by improving visual context with the use of dense captions and attention
- Technologies: Python, PyTorch, NLTK, SpaCy, Jupyter

PyTorch Paper Implementations

[View](#)

- Implementations of deep learning papers using PyTorch
- Technologies: Python, PyTorch, NLTK, SpaCy, NumPy, Pandas, Jupyter

Anomaly Detection in ECG Signals (Industry Collaboration)

Guide: Dr. Pratik Kanani

- Developed neural models for detection of anomalies in processed ECG signals from IoT devices
- Applied distributed computing algorithms to improve speed and load balancing
- Technologies: Python, NumPy, Pandas, SciPy, PyTorch, Dispy

Image Captioning using Attention

[View Notebook](#)

- Generated descriptive captions from an image along with attention map
- Implementation of Show, Attend and Tell paper by [Kelvin Xu et al.](#) in PyTorch
- Technologies: Python, PyTorch, NLTK, Jupyter

C Programming Exam Portal

[View Demo](#)

- A paperless solution for conducting C programming exam for over 500 students at D. J. Sanghvi
- Reduced teacher workload by automating report generation
- Technologies: ReactJs, Material UI, NodeJs, ExpressJs, MongoDB

RESEARCH & PUBLICATIONS

Publications available at [Google Scholar](#)

Improving Image-based Dialog by Reducing Modality Biases

Apr 2021

- 5th International Conference on Advances in Computing and Data Sciences, Springer, Accepted

Pothole Detection and Dimension Estimation

Nov 2020

- 35th International Conference on Image and Vision Computing New Zealand, IEEE

Combatting COVID-19 Using Object Detection techniques

Aug 2020

- Book Chapter in Cyber-Physical Systems: AI and COVID-19, Elsevier, Accepted

IoT and ML based Smart System for Efficient Garbage Monitoring

Aug 2020

- 3rd International Conference on Smart Systems and Inventive Technology, IEEE

Virtual Farmer

Jul 2020

- 11th International Conference On Computing, Communication And Networking Technologies, IEEE

SKILLS

Languages	Python, C, Java, JavaScript, SQL, HTML5
Databases	MySQL, SQLite, PostgreSQL, MongoDB
Libraries and frameworks	PyTorch, Keras, Scikit-learn, NumPy, Pandas, OpenCV, Gensim, SpaCy, NLTK, Flask, FastAPI, Streamlit, ReactJs, NodeJs
Others	Git, Jupyter, Docker, Raspberry Pi, LaTeX

CO-CURRICULAR ACTIVITIES

Teaching Assistant for an undergrad level Machine Learning Course - [UMLSC](#), Summer 2021

Part of **Shalizi-Stats reading group** led by [Swapneel Mehta](#) which focuses on the book [Advanced Data Analysis from an Elementary Point of View](#) and Bayesian Statistics taught by [Fenil Doshi](#)

Presented [paper reviews](#) as a part of **Unicode Research Group** on the topics of Variational Inference & Probabilistic Programming

HONORS AND AWARDS

Winner at ACM LOC Hackathon (2020)

Top 3 at CodeShashtra (State-wide hackathon) (2020)