JACOB THOMAS

📞 +1 (424) 535 7628 | ✉ jacobthomas28@g.ucla.edu | in Jacob Thomas | 🌐 www.signumneo.com
📍 Los Angeles | F1 Visa

EDUCATION

University of California - Los Angeles (UCLA)   **Jun 2024 (Expected)**
Master of Science in Electrical and Computer Engineering (GPA: 3.6/4.0)   *Los Angeles, CA*

- Academic Track – Signals and Systems

University of Mumbai   **May 2022**
B.E in Electronics and Telecommunication Engineering GPA: 9.45/10 (with Honours)   *Navi Mumbai, India*

RESEARCH INTERESTS

Natural Language Processing, Real-Time Web applications, Machine Learning Applications in Image Processing and Data Analytics

INDUSTRY EXPERIENCE

Glidewell, Engineering and Technology Division   **Jun 2023 – Aug 2023**
Software Engineer Intern   *Irvine, CA*

- Assisted in the design and development of automation system solutions for dental milling machines and material handling solutions
- Worked on front-end applications, databases, and integration with control device systems
- Modified programs and system logic involving multiple systems and subsystems to improve overall productivity and efficiency in manufacturing processes

Edureka   **Jul 2022 – Oct 2022**
Full Stack Web Development Intern   *Mumbai, India*

- Designed interactive, responsive websites for clients from the E-Learning sector
- Initial deployment executed using Flask and Heroku. Advanced deployment performed using Amazon EC2

RESEARCH EXPERIENCE

Mumbai University

Home Automation and Navigation Assistance (HANA)   **Jul 2021 – May 2022**

- Led a team of 4 members to develop a system for blind users using 16 sensors, ESP32 hardware, and cloud platforms like Firebase and AWS
- The objective is to overcome the problem of control and navigation that users with special needs face
- Conceptualized and reduced the weight of the kit to 0.92 kg powered by a rechargeable battery
- Designed a Computer Vision based smart camera for object detection and to provide audio description of the objects, completely powered by Azure

Audio Emotion Recognition Software   **Jul 2020 – Dec 2020**

- Selected and pre-processed RAVDESS and TESS audio data containing 4240 files. This process created a suitable dataset for the classification models
- Trained Machine Learning algorithms (Logistic Regression, KNN, Random Forest, SVM) to classify the dataset into six emotions (happiness, sadness, anger, fear, disgust, and surprise)

Hand Sign Recognition based on American Sign Language (ASL) data   **Jul 2020 – Dec 2020**

- Analyzed data containing 52,052 image files from Kaggle and GitHub to extract the relevant file from the data and perform feature extraction
- Tested and developed a GUI for the application by taking camera input from a webcam using OpenCV and TKINTER to get a prediction accuracy of 94.67% from the starting 72.4% accuracy

Bennett University   **Noida, India**
Intern - AI for all program (Topic: Network Traffic Classification for Software Defined Networks).   **Apr 2020 – Jun 2020**

- Collaborated with a team of 4 members and implemented pre-processing, data cleaning, etc.

- Constructed hybrid deep learning algorithms for evaluation and classification of the data containing 12 main features pertaining to 5G Network Traffic
- Fine-tuned the algorithms to increase the classification accuracy of hybrid models such as SAE – MLP and CNN – LSTM to 99.75% and 99.45%, respectively

TEACHING EXPERIENCE

Life Sciences *7A – Cell and Molecular Biology* **Fall 2023**
Teaching Associate *University of California, Los Angeles*

Physics *5C Lab – Electricity and Magnetism* **Spring 2023**
Teaching Assistant *University of California, Los Angeles*

Physics *5C Lab – Electricity and Magnetism* **Winter 2023**
Lead Teaching Assistant *University of California, Los Angeles*

Physics *5C Lab – Electricity and Magnetism* **Fall 2022**
Teaching Assistant *University of California, Los Angeles*

TECHNICAL SKILLS

- **Programming Languages and Databases:** Python, C++, JavaScript, Java, Assembly Language, SQL, DynamoDB, MongoDB Scala, CUDA
- **Software, Frameworks, and Tools:** TensorFlow, PyTorch, Kubernetes, Keras, Flask, Tkinter, Proteus, Octave, Android Studio, Power BI, Power Query, XCode

PATENT (Under Review)

Home Automation and Navigation Assistance (HANA) / https://ipindiaservices.gov.in/publicsearch
- Indian Patent (Under Review) | Name of Inventor: Jacob Thomas

RELEVANT COURSEWORK

Graduate courses

Machine Learning in Bioinformatics, Computer Vision, Computational Imaging, Large Scale Data Mining, Neural Networks and Deep Learning, Social Networks and Algorithms

Undergraduate courses

Introduction to Deep Learning, Machine Learning, Artificial Intelligence, Operation Research, IoT, Microcontroller Programming, Signal Processing

CERTIFICATIONS

- Machine Learning for iOS Developers (**LinkedIn Learning**) **Oct 2023**
- Career Essentials in Data Analysis by **Microsoft and LinkedIn** **Oct 2023**
- Swayam NPTEL course on Computer Networks and Internet Protocols (**IIT Kharagpur**) **Jun 2021**
- MTA certification in Introduction to Python Programming Using Python (**By Microsoft**) **Oct 2020**
- Python Data Structures by University of Michigan (**Coursera**) **Jun 2020**
- Neural Networks and Deep Learning by Andrew Ng (**Coursera**) **Jun 2020**

POSITION OF RESPONSIBILITY

IETE Student Forum **Jun 2020 – Jan 2021**
Team Member *Mumbai University*

IETE – ETSA Forum **Jun 2019 – Jan 2020**
Joint Secretary *Mumbai University*

Eloquence: Literary society **Aug 2018 – May 2019**
Team Member *Mumbai University*

Computer Club **May 2014 – Mar 2015**
Computer Squad President *St. John The Baptist High School*