

Mainak Deb

Curriculum Vitae

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DOB: November 9th, 2000

Education

- Expected 2023 **Bachelor's of Technology**, *Electrical and Computer Engineering*, ASE, Amrita Vishwa Vidyapeetham, Kollam, India. Current GPA: 8.93/10.0.
- 2016 - 2018 **Higher Secondary**, Amrita Vidyalayam, Kolkata, India. Marks: 89%.
- 2016 **Secondary**, Amrita Vidyalayam, Kolkata, India. GPA 8.4/10.0.

Areas of Interest

Deep neural networks, Data science, GANs, Adversarial Attacks, Computer vision, Image processing

Achievements

- October 2020 - **Lights, Camera, Hacktion! hackathon organised by MLH**
Me and my team bagged the first prize by developing a system that uses Computer Vision to automatically pause/play videos depending on whether the user is paying attention to the screen or not.
- October 2020 - **Hero Hacks Google Cloud award organised by MLH**
Me and my team built Java-based mobile application that aims to completely eliminate the use of physical paperwork in hospitals, pharmacies, and clinics, hence shifting the whole process into a digital format to ensure minimal physical contact for the consumers as well as doctors and staff. Our Project won the best Google Cloud implementation award in this competition
- September 2020 - **New Friends New Hacks hackathon organised by MLH**
My and my team won the third overall prize by building a Computer Vision based face mask detection system.

Relevant Projects

- December 2020 **Deceptive Digits**
- The aim of this project was to conditionally generate realistic images of handwritten digits. This was accomplished by training two PyTorch based custom neural networks (with label embeddings) simultaneously in a GAN framework.
- November 2020 **Eyes on the Road**
- The aim of this project was to train a PyTorch based Deep Convolutional neural network to detect driver activity. The testing accuracy was 93.9 percent, but I also tested the model on some real life images that I clicked just to be on the safe side.
- August 2020 - **Bank me Later**
Trained a PyTorch dense-net to predict if a client subscribes to a term deposit or not using attributes like job, marital status, age etc. The accuracy is 93.62 percent.
- March 2020 - **Wine Quality Prediction**
The quality of wine is directly correlated to its chemical composition, I used these chemical attributes to train a PyTorch dense-net to predict its quality, and it works! (with an accuracy of 93 percent)

February 2020 - **Facial Expression Classifier**

Trained a PyTorch based Deep Convolutional neural network to classify human facial expressions from images. Deployed it on a webcam by using openCV's Haar-Cascades to crop into the facial region and used the saved PyTorch model to compute the inference.

Technical Skills

Programming	Python, C
Primary Libraries	PyTorch, NumPy, SciPy, Pandas, OpenCV, PIL
OS	GNU/Linux, Microsoft Windows
Tools	Jupyter Notebooks, Git, conda
Web	FrontEnd- HTML, CSS
Development	BackEnd- Flask

Volunteer work and extra-curricular activities

- 2010 - 2018 **Black belt in kyokushin karate:** I've been a part of the martial arts class in my school and participated in multiple tournaments in Kolkata, India under the mentorship of Sensei Bejoy Dhara, branch chief and country representative for IKO Matsushima.
- 2016 - 2018 **Co-ordinated charity events to support villages:** I was one of the co-ordinators who helped put together events where students donated basic medical supplies and other utilities which were to be given to the poor and needy children in villages near Kolkata, India. This programme was a part of Mata Amritanandamayi devi's (Popularly known as "Amma") efforts to help the poor and the needy throughout the world.
- 2016 - 2018 **Helped co-ordinate clean up drives in areas near our school as a part of "Amala bharatam":** I was one of the co-ordinators who helped put together events where students donated basic medical supplies and other utilities which were to be given to the poor and needy children in villages near Kolkata, India. This programme was a part of Mata Amritanandamayi devi's (Popularly known as "Amma") efforts to help the poor and the needy throughout the world.
- 2019 **Volunteered as a host for families of Pulwama Attack victims during AmritaVarsham:** I was responsible for the well being of one of many families who came to Amritapuri during AmritaVarsham (Amma's Birthday) to receive financial aid.

Languages

English	Fluent
Hindi, Bengali	Fluent