

ROHAN WADHAWAN

☎ (424)977-9469 ◊ 📍 Los Angeles, CA ◊ 📁 Portfolio ◊ ✉ rohanwadhawan7@gmail.com ◊ LinkedIn ◊ Google Scholar ◊ Medium

EDUCATION

University of California, Los Angeles (UCLA)

Los Angeles, CA

MS in Computer Science (GPA 4.0/4.0)

Expected 06/2024

- **Teaching Positions:** AI Tutor Break Through Tech AI, Teaching Assistant Introduction to Programming in C++
- **Courses:** Large Scale Machine Learning, Reinforcement Learning

Netaji Subhas Institute of Technology, University of Delhi

New Delhi, India

B.E. in Computer Engineering (GPA 8.94/10.00, Graduated with Distinction)

07/2020

SKILLS

C++ • Python • SQL • JavaScript • TensorFlow • Pytorch • Flask • MongoDB • Node.js • Git • Heroku • Overleaf

WORK EXPERIENCE

Samsung R&D Institute, Visual Intelligence Team

Bengaluru, India

Senior Software Engineer

01/2021 - 06/2022

- Enhanced tone and saturation of images rendered by the Expert Raw Application via integration of a new deep learning module to the camera pipeline in flagship smartphone models (S22).
- Developed a toolkit for fine-grained latency analysis of Samsung's propriety interface layer in the camera software stack.
- Deployed various camera solutions like Video Stabilization, Hyperlapse, & Single Take on existing & upcoming S (S22), A (A73), & M (M53) series smartphones & Tablets (Tab S8).
- **Tools/Skills:** C++, Python, Object Orientation, Version Control, Computational Photography

Software Engineer Intern

05/2019 - 07/2019

- Automated & reduced the testing time of the camera flashlight module down to 10% by developing an android application.

Indian Institute of Technology, Delhi, Neurocomputing Lab

New Delhi, India

Research Assistant

07/2020 - 01/2021

- Architected a Human-inspired, Landmark-aware Ensemble Facial Expression Recognition CNN that improved the current benchmark on the CK+ & JAFFE datasets by **0.51%** & **5.34%** & required only **3.28 MFLOPs** for inference.
- Research work published in **IEEE Transactions on Artificial Intelligence, 2022**.
- Invented a Spatio-temporal (CNN-LSTM) deep learning pipeline for water stress phenotyping of Chickpea plant that achieved a ceiling level classification performance of **98.52%** on JG-62 & **97.78%** on Pusa-372 chickpea plant datasets.
- Research work published in **IEEE Transactions on Instrumentation and Measurement, 2021, [IF: 5.332]**.
- **Tools/Skills:** Python, Tensorflow, Explainable AI, Overleaf, PyPI packaging, Git

Netaji Subhas Institute of Technology, Computer Science & Engineering Department

New Delhi, India

Undergraduate Head Researcher, Bachelor's Thesis

08/2019 - 07/2020

- Crowdsourced MAST dataset - a textual description corpus for **2000** face images of the CELEBA - HQ dataset.
- Modeled a Generative Adversarial Network to synthesize faces from text and reported baseline scores of **54.09** Fréchet Inception Distance, **1.080** Facial Semantic Distance, and **60.42%** Facial Semantic Similarity on MAST dataset.
- Research work published in Proceedings of **IEEE TEMSMET, 2020**
- **Tools/Skills:** Python, JavaScript, PyTorch, Flask, MongoDB, Node.js, Heroku, Overleaf, Git

SELECTED PROJECTS

Effect of Neural Network Pruning on Image classification in Federated Learning setup 10/2022 - 12/2022

- Proposed protocol applied to the Iterative Magnitude Pruning method achieved an improvement of **6%** on FMNIST and **8%** on MNIST for a **99%** prune ratio when compared with one global iteration of standard Federated Training.

Spotify Music Recommendation using Reinforcement Learning

10/2022 - 12/2022

- Employed Deep Deterministic Policy Gradient framework and Offline Reinforcement learning techniques to recommend a diverse list of songs that reduced the average skip rate by **12%** from the baseline.

Project ViSTARa, Indian Winner at UN Reboot the Earth hackathon

08/2019

- Designed a Learning Management website to educate rural women through India's **0.5M**-wide Self-Help Group network.
- Devised a recommender system to suggest crops that require minimum supplementary irrigation based on rainfall patterns

Tools/Skills: Python, JavaScript, PyTorch, Tensorflow, Flask, MongoDB, Node.js, Heroku, Overleaf, Git

HONORS & VOLUNTEER EXPERIENCE

- **Full Scholarship for AI-Generated Media** course offered by MIT Media Lab (**91** selected worldwide) 10/2021
- **PyData Impact Scholar** (**75** selected worldwide) 10/2021
- **Recorded an audio book** as part of Samsung's initiative for **accessible education** 11/2021
- **Reviewer** for talks, tutorials, and workshops for PyData Global 2021 Conference 09/2021
- **Regionals** of the International Collegiate Programming Contest (**ICPC**), Kharagpur, Asia 12/2019