

Debabrata Mandal

+1 9193701694 @ mandaldebabrata123@gmail.com

Education

IIT BOMBAY

B.TECH IN COMPUTER SCIENCE

2017-2021 Mumbai, India

- Cum. GPA: 8.69 / 10.0
- Worked under Prof. Parag Chaudhuri for UG research project. Awarded with a distinction grade for exemplary work.

Links

GitHub [codejaeger](#)

LinkedIn [debabrata-mandal](#)

Blogging [github/myweblogs](#)

Games & animations [portfolio](#)

Skills

PROGRAMMING

Python • C/C++(11/14/17) • Julia • Matlab • GoLang

MISCELLANEOUS

Linux systems • Tensorflow • Scikit-Learn • CUDA • ONNX

Honors

SCHOLARSHIPS

UDACITY

[2021]

Bertelsmann Technology

Nanodegree Scholar (top 500/50k based on course performance)

THE LINUX FOUNDATION

[2020, 2021]

x2 times LiFT scholar (top 500/1.5k applications)

AWARDS

[2022] Kaggle's November ML Research Spotlight global winner (top 3 out of all submissions)

[2022] Hack22 finalist (top 5/50 teams) - Judges special mention award (KLA-Tencor, India)

[2021] DigitalOcean Hacktoberfest, global finalist

[2019] Global rank 92/14k in CodeChef's December Long Coding Challenge

Volunteering

NSM, IIT MADRAS (MAY 2022)

Teaching assistant for preparing assignments for a 2 weeks course on heterogeneous C++ programming [code]

WNCC, IIT BOMBAY (FALL 2019)

Mentored undergraduates in ideation to completion of a project in OpenGL. [code]

Experience

AI ENGINEER

ADVANCED COMPUTING LAB (AI-ACL), KLA-TENCOR

June 2021 – Present

Chennai, India

- Optimised inference throughputs of defect detection networks by 1.8x on Nvidia Tesla T4 cards using INT8 computations.
- Part of the development team responsible for building next-gen inference framework shipped with improvements over Tensorflow.

LFX MENTEE

OPEN HORIZON (IBM), THE LINUX FOUNDATION

March 2021 – June 2021

Remote

- Implemented (in Go) a secret sharing mechanism between isolated edge nodes (agbots) and management nodes using Hashicorp Vault.
- Eliminated secret-leaking within nodes using access control lists.

OPEN SOURCE CONTRIBUTOR (GSOC'21)

JAVIS.JL, THE JULIA PROJECT

March 2021 – Present

Remote

- Fix issues and add features to Javis.jl, the highest-starred open source 2D animation package in the Julia community.
- Start and independently maintain JavisGraphs.jl as a package to animate network graphs using Javis.jl (work started as part of GSoC'21)

OPEN SOURCE CONTRIBUTOR (GSOC'20)

BOOST.C++

May 2020 – Sep 2020

Remote

- Designed a generic multidimensional histogram container class tailored for Boost.GIL using template meta-programming in C++11.
- Implementation supports image processing algorithms with superior quality and comparable speeds to ones in OpenCV.

Research work

AI-ACL, IITM

PRADEEP RAMACHANDRAN & PROF. NITIN CHANDRACHOODAN

Aug 2021 – Sep 2022

Research Park, IIT Madras

- Implemented the main code components in Tensorflow of the ideas presented in the paper "SplitKnit Convolutions" [1].
- Ran extensive experiments to compare the approach with hardware-accelerated algorithms and kernels.

VIGIL LAB

PROF. PARAG CHAUDHURI

Jan 2021 – Sep 2022

IIT, Bombay

- Extend previous work in hand mesh registration using MANO (SMPL+H) from depth only images to RGB+Depth images.
- Benchmark improvements over state-of-the-art mesh refinement networks and compile them into preprint for submission.

RESEARCH POSTER

PROF. UDAY KHANKHOJE

Sep 2022 – Nov 2022

IIT, Madras

- Solved a network utility maximization problem in a distributed fashion using an approximated Newton descent method with observed super-linear convergence.
- Presented findings in a departmental poster fair, garnering suggestions and feedback to publish results in a journal.

Publications

[1] (Accepted for HiPC'2022) 'Split-Knit Convolution: Enabling Dense Evaluation of Transpose and Dilated Convolutions on GPUs'

A. Vadakkevedu, **D. Mandal**, P. Ramachandran and N. Chandrachoodan