

MICHELLE THALAKOTTUR

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Pune, Maharashtra, India

EDUCATION

MKSSS's Cummins College of Engineering for Women, University of Pune 2017 - Present
B.Tech. in Computer Engineering Spring 2021, expected
CGPA: 8.8 / 10.0

- Seminar report on *Machine Learning Based Compiler Optimization* was among the top 15 (out of 224) student seminars.

RESEARCH EXPERIENCE

Indian Institute of Technology, Bombay June 2020 - Present
Research Intern

Advisor: Professor Uday Khedker, Dept. of Computer Science

Topic: Data Flow Analysis

- Worked on a research project where I provided an insight that allowed the algorithm to be generalized beyond its earlier application.
- Designed and implemented a data structure from the ground up to help represent a sparse family of sets that are discovered incrementally in Data Flow Analysis so that we can efficiently compare and perform operations on these sets.
- Currently building a Cpp library that would allow you to use data structures like BDDs and vector-clocks to efficiently represent a sparse family of sets for Data Flow Analysis.

Indian Institute of Technology, Bombay May 2020 - Present
B.Tech. Research Project

Advisor: Professor Uday Khedker, Dept. of Computer Science

Topic: Formalization of Translation Performed by the SCLP Compiler Phases

Indian Institute of Technology, Patna Nov. 2018 - June 2019
Research Intern

Advisor: Professor Jimson Mathew, Dept. of Computer Science

Topic: Dimensionality Reduction, Machine Learning

- Implemented, tested and presented a report of my results on a new algorithm that aimed to perform Dimensionality reduction in a Semi-supervised setting. I also compared the results to existing state-of-the-art algorithms and helped write a paper on the algorithm.
- This paper was later accepted after peer review for publication in the International Conference on Neural Information Processing (ICONIP 2019), Sydney, Australia.
- Of ten summer projects submitted to the conference, ours was one of two to be accepted.
- Worked on Relative Distance Constraints to better represent data embedded in a manifold.

PEER-REVIEWED PUBLICATIONS

Semi-supervised Regularized Coplanar Discriminant Analysis ICONIP 2019
Rakesh Kumar Sanodiya, Michelle Davies Thalakottur, Jimson Mathew, Matloob Khushi
In *Proceedings of the International Conference on Neural Information Processing (ICONIP)*.
Sydney, Australia, December 2019

Multi-objective Approach for Semi-Supervised Discriminant Analysis with Relative Distance
CEC 2019
Rakesh Kumar Sanodiya, Sriparna Saha, Jimson Mathew, Michelle Davies Thalakottur, Utkarshinee Aadya
In *Proceedings of the 2019 IEEE Congress on Evolutionary Computation (CEC)*.
Wellington, New Zealand, June 2019

OUTREACH AND MENTORSHIP

Talks

- *Pursuing Undergraduate Research* [video] [slides]

This is an introductory talk given to students from disconnected undergrad programs who have never considered doing research, or who are starting to think about pursuing research.

Student Club: Artificial Intelligence and Computer Vision Society (AICVS)

Head Coordinator

2019 - 2020

- Head organizer of various technical talks and competitions to introduce students to Machine Learning.
- Coordinated outreach efforts for undergraduate research in computer science.
- Organized a bimonthly platform for students to present their ongoing work and projects.

Website Coordinator

2018 - 2019

- Set up and maintained the club website in the first year of the club.
- Coordinated student volunteer efforts to publish monthly blogs centered around Machine Learning.

Student Chapter: Society of Women Engineers (SWE)

Head of Student Representatives

2019 - 2020

- Our chapter received the SWE WE Local 2021 Outstanding Outreach Event Award.
- Organized an STEM outreach program with 25 student volunteers in partnership with a local education NGO, the IDEA foundation for K-8 underprivileged students.
- Helped organize the Incube Conference which had several invited talks on the theme of Innovation and Inclusion and showcased various student research projects.
- Helped organize a SWE Mentorship program and was a mentor in the same.

Student Representative

2018 - 2019

- Helped organize a STEM Outreach program with 20 student volunteers to Maher Ashram, Pune for K-8 underprivileged students.

SERVICE

Student Council: Elected Student Panel Member

Assistant English Editor

2018 - 2019

- Edited articles and worked to publish the Annual College Magazine, Kshitij.
- Helped organize the Annual College Technical Fest, Innovation 2019 and the Cultural Fest, Gandhaar 2019.

OTHER ACTIVITIES

Programming Languages Mentoring Workshop (PLMW)

Aug. 2020

International Conference on Functional Programming (ICFP2020)