MICHELLE THALAKOTTUR

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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 - Apr. 2019 (remote)
Research Intern May 2019 - June 2019 (lab work)
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

A new transfer learning algorithm in semi-supervised setting IEEE Access
Rakesh Kumar Sanodiya, Jimson Mathew, Sriparna Saha, Michelle Davies Thalakottur
In *IEEE Access, vol. 7, pp. 42956-42967, 2019.*
March 2019

OUTREACH AND MENTORSHIP

Talks

· Pursuing Research as an Undergraduate from a Disconnected Program [video] [slides]

Student Club: Artificial Intelligence and Computer Vision Society (AICVS)
AICVS is a club that aims to equip students with a primary skill set in Machine Learning, the knowledge to implement various algorithms and gain a good understanding of what happens behind the scenes.

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)
The Society of Women Engineers, founded in 1950, is an international not-for-profit educational and service organization headquartered in the United States. The Society of Women Engineers is the worlds largest advocate and catalyst for change for women in engineering and technology.

Head of Student Representatives 2019 - 2020
· 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.
· Represented all sophomore Computer Engineering students.

SERVICE

Student Council: Elected Student Panel Member
Assistant English Editor 2018 - 2019
The Student Panel is a group of elected students working together within the administrative framework of the college to provide a means for student expression and encourage student - faculty - community relations.

· 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 ACTIVITES

Programming Languages Mentoring Workshop (PLMW) Aug. 2020
International Conference on Functional Programming (ICFP2020)