# 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 - 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, <u>Michelle Davies Thalakottur</u>, 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, <u>Michelle Davies Thalakottur</u>, 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, <u>Michelle Davies Thalakottur</u>

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)**

*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.
· Represented all sophomore Computer Engineering 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 ACTIVITES

**Programming Languages Mentoring Workshop (PLMW)** Aug. 2020

International Conference on Functional Programming (ICFP2020)