Oyendrila Dobe

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EDUCATION

Ph.D., Computer Science, **Michigan State University**   September 2018 - June 2024(Expected)

Thesis: *Verification of Probabilistic Hyperproperties in Markov Models*   East Lansing, MI

B.Tech, Computer Science and Engineering, **MAKAUT**   August 2013 - June 2017

Thesis: *Detection and extraction of brain tumors from MRI scans*   Kolkata, India

WORK EXPERIENCE

Applied Scientist Intern, **Amazon Web Services**   June 2023 - September 2023
- Manager: *Aaron Tomb*, Mentor: *Rustan Leino*   Seattle, WA
- Expanded program equivalence tool to compare Java programs
- Revived existing codebases and tools, adapted to learn Boogie, Dafny, C#, Soot, and Gradle
- Communicated workflow and results to technical stakeholders

Applied Scientist Intern, **Amazon Web Services**   May 2022 - August 2022
- Manager: *Temesghen Kahsai*, Mentor: *Byron Cook*   New York City, NY
- Engineered prototype tool to validate data residency on cloud setups
- Collaborated with multiple teams to combine internal tools and AWS APIs
- Presented results to technical and non-technical stakeholders

Teaching Assistant, **Michigan State University**   September 2018 - April 2023
- Conducted lectures, and recitations, and moderated discussions   East Lansing, MI
to assist students in improving conceptual understanding
- Designed and evaluated assignments and projects
- Administered online learning platform for an average class size of 150 for efficient course facilitation

System Engineer, **Infosys Limited**   October 2017 - May 2018
- Acquired training in Python and SAP ABAP as a fast-track candidate   Mysuru, India
- Implemented employee leave system using ABAP

RESEARCH PROJECTS

Formal Verification of Probabilistic Hyperproperties   **Google scholar page**
- Collaborated with teams of researchers to create novel logic framework HyperPCTL, theoretical results, and algorithms
- Implemented algorithms using Python and Z3 to develop prototypical tool
- Devised and evaluated case studies to showcase applications of the logic
- Published and presented results across different conferences

SKILLS

- Languages - Python, Java, C, HTML, CSS
- Technologies - AWS, Git, Shell, Matlab
- Certifications - [Introduction to HPC](#), [LLMOps](#) (ongoing)

EXTRACURRICULAR EXPERIENCE

- Advised undergraduate mentors in MSU's after-school   January 2022 - Present
  program to introduce coding to middle and high school students
  (average student cohort size - 50)
- Designed and analyzed surveys using Excel to measure impact of curriculum
- Advising early-stage graduate students as part of departmental mentoring program
- Competed in regional tournaments as part of the MSU Badminton team