

Abdurahman Ali Mohammed

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PROFESSIONAL EXPERIENCE

Graduate Research Assistant May 2022 – Present

Iowa State University

- Led interdisciplinary research on analyzing ~350 high-resolution cellular images using PyTorch deep learning models leading to a published paper.
- Guided six undergraduate students in identifying research challenges and crafting impactful solutions, fostering academic growth and innovation.
Projects: Deep Learning based Cell counting, Medical Image Segmentation using Deep Learning, Self-supervised learning methods for Medical Image Segmentation.

Graduate Teaching Assistant August 2021 – Present

Iowa State University

- Led 7+ Teaching assistants as a head TA for an Object Oriented Programming course with 400+ students every semester.
- Prepared and run scripts to auto-grade student submissions to cut the grading time by half.
- Led hands-on data science sessions for 13 students at the Ames Lab (a U.S. Department of Energy National Laboratory) bootcamp, focusing on tools such as Pandas, Sklearn, Matplotlib, Seaborn, and Bokeh.
- Facilitated a National Science Foundation funded boot camp for 12 graduate students, covering exploratory data analysis, data visualization, machine learning, and deep learning techniques.

Software Engineer October 2018 – July 2019

Modern Cyber Intel Consultancy

- Managed the administration of an SMS advertisement system that sends over 25,000 messages to clients every day.
- Performed data analysis of a database to provide 5-10 reports weekly to managers.
- Engineered the design, development, and deployment of 5+ Websites for clients.

Software Engineering Intern June 2017 – September 2017

Kifiya Financial Technologies

- Designed and implemented Office Deliverable Materials Recording System that helps the company cut-down paperwork.
- Performed weekly performance analysis with mentor to build better Software Engineering skills.
- **Skills:** Java SpringBoot, GIT, Apache Tomcat, and MySQL.

EDUCATION

Iowa State University August 2021 - Present
Doctor of Philosophy - PhD, Computer Science
Ames, Iowa

- Courses: Machine Learning, Natural Language Processing, Principles and Internals of Database Systems, Advanced Design and Analysis of Algorithms, Theory of Computation, Software Requirements Engineering.

Addis Ababa Science and Technology University September 2014- June 2018
Bachelor's degree, Computer Software Engineering
Addis Ababa, Ethiopia

- Cumulative GPA: 3.98

PUBLICATIONS

Abdurahman Ali Mohammed, Catherine Fonder, Donald S. Sakaguchi, Wallapak Tavanapong, Surya K. Mallapragada, and Azeez Idris. 2023. IDCIA: Immunocytochemistry Dataset for Cellular Image Analysis. In Proceedings of the 14th ACM Multimedia Systems Conference (MMSys '23).

A. Idris, **A. A. Mohammed**, and S. Fanijo, "Stronger is not better: Better Augmentations in Contrastive Learning for Medical Image Segmentation," NeurIPS Black in AI workshop, Nov-2022. [[Poster](#)]

HONORS & AWARDS

Google Computer Science Research Mentee September 2022
Google

- Selected as one of 300 mentees from a highly competitive pool of applicants across North America.
- Engaged in Pod sessions and panels on building a successful research career on a 12-week program.
- Had insightful 1:1 sessions with a mentor at Google toward conducting cutting-edge research.

Teaching Excellence Award September 2023
Iowa State University

- Honored as one of the top 10% of graduate students at ISU for outstanding teaching.

Gold Medal for Outstanding Academic Performance June 2018
Addis Ababa Science and Technology University

- Gold medal for demonstrating an academic performance from the whole university graduates in 2018.

Award for Best Thesis June 2018
Addis Ababa Science and Technology University

- Selected and awarded as one of the Top thesis projects in the department of Computer Science and Software Engineering Departments.

LEADERSHIP

Computer Science Graduate Student Organization September 2022
Iowa State University

- Served as a committee member and Hackathon chair by organizing an Annual Hackathon

SmartMasa (startup) January 2019
Addis Ababa

- Co-founded a start up company that aims to provide innovative Web and mobile based precision farming products for small and large scale farmers.