



# SALMA BHAR

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🌐 <https://www.linkedin.com/in/salmabhar/>

👤 she/her

🔗 <https://github.com/Salma-Bhar-CWRU/Portfolio>

## EDUCATION

**Case Western Reserve University**, Bachelor of Science in Computer Science

Relevant Coursework: Data Analysis, Entrepreneurship, Machine Learning, Data Structures, Intro to AI, Databases, Algorithms, Linear Algebra, Statistics

Aug 2022 – May 2026  
Cleveland, OH

## PROFESSIONAL EXPERIENCE

**AP Computer Science Teaching Assistant**, Microsoft TEALS

- Collaborated with a team of 2 Teaching Assistants and 1 teacher to create an engaging learning environment for 15+ AP Computer Science underrepresented students

Aug 2024 – present  
Cleveland, OH

**AI Team Research Member**, Tunisian Space Association (TUNSA)

- Built a Machine Learning model to predict the age of buildings through satellite images from a dataset of 35,000 entries across 5 countries of over a 100-year timespan
- Wrote research paper reviews on the trends in machine learning for space applications

Apr 2024 – present  
Hybrid

**Break Through Tech AI/ML Fellow**, Cornell Tech

- Selected from 3000+ applicants for a 18-month AI, ML, and Data Science fellowship.
- Completed a 9-week Machine Learning Foundations summer course.
- Engaged in the AI-Studio, working in teams on real-world datasets and projects mentored by industry professionals, with opportunities for career development and mentorship.

May 2024 – present  
Virtual

**AI-Studio Researcher Fellow**, Latitude AI

- Implemented a machine learning 3D object detection system for autonomous driving vehicle safety

Aug 2024 – present  
Virtual

**Undergraduate Researcher Intern**, Solar Degradation and Lifetime Extension Center

- Modeled and analyzed data in an interdisciplinary research project in Data Science and Materials Science
- Edited and optimized 5+ past graduate and postdoctoral colleagues' collaborative scripts through Git and Jira to be up to date with the data's evolution patterns using dplyr, ggplot2, and tidyverse R packages

May 2023 – present  
Cleveland, OH

**Junior Student Web Programmer, Content Editor**, Case School of Engineering

- Created and edited content of 30+ new Drupal 6/7/8 websites and managed users
- Provided training for new employees and assistance for 5 professors who wish to edit web pages

Feb 2023 – Dec 2023  
Cleveland, OH

## PROJECTS

**Detecting Objects in Autonomous Driving**, Latitude AI

Developed a 3D object detection system for autonomous driving using convolutional neural networks (CNNs) and transfer learning to classify objects from images. Innovated by converting perspective images to bird's eye view (BEV) and incorporating depth information to enhance detection accuracy. This project advanced vehicle safety and autonomy by leveraging deep learning techniques in computer vision.

Aug 2024 – present

**A Data-Driven Approach to Enhancing Solar Cell Longevity and Efficiency**, SDLE Center

Collaborated with a multidisciplinary team to model degradation patterns in photovoltaic cells using 490+ data measurement files across 3 architectures. Utilized R packages for data visualization and analysis, working with High Performance Computing (HPC) clusters with 250+ servers, including 60+ GPU nodes. Presented a poster at CWRU Intersections and the SUNY Buffalo Undergraduate Research Conference.

May 2023 – Dec 2024

**Machine Learning Approach to Predicting Countries' Happiness Index**, Cornell Tech

Developed an ML model to predict the happiness index of countries using data from a World Happiness Report Dataset, comprising 1562 records. Implemented 4 regression models, including Decision Tree Regressor, Random Forest Regressor, and Gradient Boosting Regressor, optimizing them through hyperparameter tuning and feature engineering to achieve an R-squared of 0.7912.

Jul 2024

## LEADERSHIP & VOLUNTEERING

**Global TEDx Experience with 100+ attendees**

- Lead Organizer of TEDxPiloteAriana, Tunisia
- Co-Lead Organizer of TEDxYouth@UWCISAK, Japan
- Speaker at TEDxYouth@Tokyo: "What a Rubik's Cube can teach us about Global Issues", Japan
- TED Circles Host and License Holder, Virtual

## AWARDS

- Veale Snyder Fellowship, a 12-month fully funded program focused on Entrepreneurship and Professional Development
- Expedition EY Advanced Level Certificate of Completion by Ernst & Young 2024
- SURES \$4,200 Undergraduate Research Scholarship to work on my own research project in summer 2023
- Fall 2022 Women In Tech Professional Development Scholars Program at Case Western Reserve University
- Massie CIT'66 Endowment, Women In Tech \$1000 Fund to attend the Grace Hopper Celebration in 2023 and 2024
- Rewriting the code Fellowship, She Code Africa Member
- Full Scholarship recipient: Davis United World College Scholarship, CWRU Grant