

# SUNZID HASSAN

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 sunzid-hassan |  SunzidHassan

Ruston, Louisiana - 71270, US

## OBJECTIVE

To conduct research in the fields of embodied artificial and biological intelligence.

## EXPERIENCE

- **Automatic Control Lab**  March 2023 - Ongoing  
Research Assistant Ruston, USA
  - Conducted research on embodied AI-based robotic Odor Source Localization (OSL) research.
- **Bangladesh Honda Pvt. Ltd.**  April 2022 - February 2023  
Head of the Business Planning Section Dhaka, Bangladesh
  - Developed a company-wide value chain analytics program. The insights generated by the system were used internally for supply chain planning ('Niguri'), and management decision making ('Seihan').
  - Developed a sales forecasting system (trends, seasonal variations, and cycles). The system was used in 2023-24 financial year production planning.
- **Obboy Labs**  March 2022  
Financial Analyst Dhaka, Bangladesh
  - Used inferential statistical analysis on equity market data to predict stock market performance.

## EDUCATION

- **Louisiana Tech University** June 2024 - Ongoing  
Ph.D. in Computational Analysis and Modelling Ruston, USA
- **Louisiana Tech University** March 2023 - August 2024  
MS in Computer Science Ruston, USA
  - GPA: 4.00/4.00
  - Thesis: Robotic Odor Source Localization using Vision and Olfaction Sensing.
- **Institute of Business Administration (IBA), University of Dhaka** July 2018 - January 2021  
Master of Business Administration (MBA) Dhaka, Bangladesh
  - GPA: 3.60/4.00
- **Khulna University of Engineering & Technology (KUET)** February 2013 - May 2017  
Bachelor of Urban and Regional Planning (BURP) Khulna, Bangladesh
  - GPA: 3.43/4.00
  - Thesis: Quantifying Air Pollution Removal by Urban Trees in Khulna City with Google Earth Engine.

## PUBLICATIONS

C=CONFERENCE, J=JOURNAL, S=IN SUBMISSION, T=THESIS

- [S.1] Sunzid Hassan, Lingxiao Wang, Khan Raqib Mahmud (2024). **Integrating Vision and Olfaction via Multi-Modal LLM for Robotic Odor Source Localization**. Manuscript submitted for publication in *Sensors*.
- [J.1] Sunzid Hassan, Lingxiao Wang, Khan Raqib Mahmud (2024). **Robotic Odor Source Localization via Vision and Olfaction Fusion Navigation Algorithm**. *Sensors*, Vol. 24, Issue 7, pp. 2309. DOI: 10.3390/s24072309
- [C.1] Sunzid Hassan, Lingxiao Wang, Khan Raqib Mahmud (2023). **Multi-Modal Robotic Platform Development for Odor Source Localization**. In *2023 Seventh IEEE International Conference on Robotic Computing (IRC)*, pp. 59-62. IEEE. 2023/12/11, USA. DOI: 10.1109/IRC59093.2023.00016
- [C.2] Khan Raqib Mahmud, Sunzid Hassan, et al. (2024). **Deep Learning-based Wildfire Smoke Detection using Uncrewed Aircraft System Imagery**. In *2024 21st International Conference on Ubiquitous Robots (UR)*, pp. 580-587. IEEE. 2024/6/24, USA. DOI: 10.1109/UR61395.2024.10597449
- [C.3] Sunzid Hassan, KM Nabiul Haque, Tasmina Fahmin (2016). **Evaluation of Busses and Cars as Transportation Mode to Workplace**. In *3rd International Conference on Civil Engineering for Sustainable Development, ICCESD*. 2016/2, Bangladesh.
- [C.4] Sunzid Hassan, Mohaimin Azmain (2016). **Parking Demand and Supply Analysis of Different Three Wheeler Vehicles in Khulna**. In *3rd International Conference on Civil Engineering for Sustainable Development, ICCESD*. 2016/2, Bangladesh.

## SKILLS

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- **Robotics:** Robot Operating System 1 and 2, Gazebo Simulation, Docker and Developer Container
- **Programming Languages:** Python, R, Matlab, Octave, C++, C
- **Web Technologies:** HTML, JavaScript, CSS
- **Database Systems:** SQL, SQLite
- **Data Science & Machine Learning:** PyTorch, TorchRL

## HONORS AND AWARDS

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- **Champion** 2019  
*WUB National Debate Competition 2019, World University Bangladesh.*
  - Member of the champion Dhaka University debate team.
- **Runner up** 2016  
*UGC National British Parliamentary Debate Competition 2016, Bangladesh University Grant Commission.*
  - Lead of the KUET debate team.
  - Won the first national-level award for a KUET debate team.
- **Runner up** 2015 [🌐]  
*ESAB Smart City Challenge 2015, Engineering Students Association of Bangladesh*
  - Lead of the runner up team.
  - Presented a study on sustainable public transportation system for the bank employees of Dhaka.
- **Runner up** 2015 [🌐]  
*Dhaka University IT Society IT-based Business Idea Competition 2015*
  - Lead of the runner up team.
  - Presented a business idea on blockchain-based Land Information System.

## LEADERSHIP EXPERIENCE

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- **President** July 2016 - June 2017 [🌐]  
*KUET Debating Society*
  - Lead KUET Debating Society as the elected President of the organization for one year.
  - Organized the 'KDS-Transparency International Bangladesh Inter University National Debate Festival 2017'.

## ONLINE COURSE CERTIFICATIONS

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- **University of Michigan's Python Programming** April 2020
- **University of Michigan's Python Data Structures** April 2020
- **Harvard University's CS50: Introduction to Computer Science** February 2021
- **University of Alberta's Fundamentals of Reinforcement Learning** December 2019
- **Stanford University's Machine Learning** October 2016

## PROJECTS

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- **Product Recommender System for an Ecommerce Platform** January 2022 [🌐]  
*Tools: recommenderlab library*
  - Developed a recommender system for a local e-commerce platform.
- **Financial Analysis of Ruppur Nuclear Power Plant, Bangladesh.** January 2022 [🌐]
  - Financial analysis included calculation of project's: Levelized Unit Energy Cost (LUEC), Weighted Average Cost of Capital (WUCC), Net Present Value (NPV), pay back period and break even point.

## REFERENCES

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1. **Lingxiao Wang**  
Assistant Professor, Electrical Engineering  
Organization/Institution Name  
Email: lwang@latech.edu  
Phone: +1-318-257-2758  
*Relationship: Ph.D. Advisor.*
2. **Tanmoy Chakraborti**  
Assistant Professor, Urban and Regional Planning  
Khulna University of Engineering & Technology (KUET)  
Email: tanmoy.chakraborty@urp.kuet.ac.bd  
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