Wageesha Bangamuarachchi

📍 *Colombo, Sri Lanka*

✉ wageeshaerangi27@gmail.com 🎓 in

Research Interests

Interested in research areas such as Machine Learning, Artificial Intelligence, Ubiquitous Computing, and Mobile Sensing. Have research experiences by conducting research at the intersection of human-computer interaction, ubiquitous computing, mobile sensing, and machine learning for domains such as healthcare and human behavior modeling.

Education

BSc Engineering (Honors) 1st Class, Computer Science & Engineering

UNIVERSITY OF MORATUWA, LK   *Sep. 2017 - Aug. 2022*
- GPA 3.98/4.2 (Top 10 of the class of 127)
- Dean's List in every semester

Research Experience

Undergraduate Researcher

UNIVERSITY OF MORATUWA, LK   *Apr. 2021 - Jun. 2022*
- **Supervisors :** Prof. Indika Perera (University of Moratuwa, LK), Lakmal Meegahapola (EPFL, CH) and Prof. Daniel Gatica-Perez (EPFL, CH)
- Research on personalized machine learning models for mood inference using multimodal smartphone sensing data
- Research on eating events detection with smartphone sensing using multimodal smartphone sensing data
- Design and deploy mobile applications and ML models to detect eating events in real-time by collecting real-world data

Publications

Journals (* - equal contribution)

- **W. Bangamuarachchi***, A. Chamantha*, L. Meegahapola*, S. Ruiz-Correa, I. Perera, D. Gatica-Perez; *Sensing Eating Events in Context : A Smartphone-Only Approach*; IEEE Access, vol. 10, 2022. [Published | Impact Factor : 3.75] ↗

- **W. Bangamuarachchi***, A. Chamantha*, L. Meegahapola*, H. Kim*, S. Ruiz-Correa, I. Perera, D. Gatica-Perez; *Inferring Mood-While-Eating with Smartphone Sensing and Community-Level Personalization*; ACM Transactions on Computing for Healthcare (ACM HEALTH). [Under-review]

Research Projects

Sensing Eating Events in Context : A Smartphone Only Approach

ADVISORS : L. MEEGAHAPOLA AND PROF. D. GATICA-PEREZ (EPFL, CH), PROF. I. PERARA (UNIVERSITY OF MORATUWA, LK)   *2021*
- Investigated and showed that passive smartphone sensing features such as accelerometer, location, app usage, screen usage, and battery usage could be used to detect eating and non-eating events in real-life situations with an F1 score of 85.2%.

Inferring Mood-While-Eating with Smartphone Sensing and Novel Personalization Technique

ADVISORS : L. MEEGAHAPOLA AND PROF. D. GATICA-PEREZ (EPFL, CH), PROF. I. PERARA (UNIVERSITY OF MORATUWA, LK)   *2022*
- Conducted research on inferring mood-while-eating using smartphone sensing and self-reports. Showed that accuracies over 80.7% can be achieved for the three-class mood inference task (positive, neutral, negative) by using a novel user-level-community based personalization technique.

MSense Mobile Application - Sensing Eating Events in Context

ADVISORS : L. MEEGAHAPOLA (EPFL, CH), PROF. I. PERARA (UNIVERSITY OF MORATUWA, LK)   *2022*
- Designed, developed, and deployed a mobile application and ML models (General and personalized models) to detect eating events in real-time by using users' behavior and context with the help of sensing features such as accelerometer, location, screen usage, and battery usage. Collected real-world data from 12 participants during the pandemic period and observed the model performance.

MCollect Mobile Application

ADVISOR : KUTILA GUNASEKERA (UNIVERSITY OF MORATUWA, LK)   *2022*
- Designed and developed an android mobile application to be used as research data collection app with the features such as : customizing the app to suit different project requirements, collecting different types of data, and viewing and downloading data that can be used offline and online.

Call Detail Record (CDR) data analyzing library

ADVISOR : L. FERNANDO (LIRNEASIA)   *2020*
- Designed and developed a python library for CDR data analysis for the call, message, and antenna datasets. Functionalities : Data cleaning, data modeling, and visualization.

Awards & Honors

2017-2022	**Dean's list - All the semesters**, Department of Computer Science and Engineering, University of Moratuwa, LK
2021	**IEEEXtreme 15.0 – Island Rank 18, World Rank 247**, Programming competition organized by IEEE, competed against 2500+ teams
2021	**MoraXtreme 6.0 – Island Rank 15**, Programming competition organized by University of Moratuwa, LK, competed against 250+ teams
2020	**IEEEXtreme 14.0 – Island Rank 26, World Rank 274**, Programming competition organized by IEEE, competed against 3000+ teams
2020	**MoraXtreme 5.0 – Island Rank 14**, Programming competition organized by University of Moratuwa, LK, competed against 250+ teams
2020	**HomeAlone2020 Hackathon – Island Rank 3**, 72 hours Hackathon organized by the Students' Union of Faculty of IT, University of Moratuwa, LK, competed against 450+ teams
2020	**Google Hash Code - Island Rank 21**, Programming competition organized by Google
2019	**Code with WIE competition – Best Team Process Award**, Hackathon organized by IEEE Women in Engineering, LK
2019	**University of Moratuwa Colors Award**, Awarded to appreciate non-academic related outstanding performance of the undergraduates of University of Moratuwa, LK
2019	**IEEEXtreme 13.0 - Island Rank 27, World Rank 461**, Programming competition organized by IEEE, competed against 3000+ teams
2019	**MoraXtreme 4.0 – Island Rank 14**, Programming competition organized by University of Moratuwa, LK, competed against 250+ teams
2018-2022	**Mahapola Higher Education Scholarship**, Ministry of Education, LK. Awarded to top 1% of all undergraduates
2016	**GCE Advanced Level – Island Rank 198 out of 30000+ candidates**, Physical Science Stream. Department of Examinations of the Ministry of Education, LK. Z-Score 2.2617
2013	**GCE Ordinary Level – Distinction**, Department of Examinations of the Ministry of Education, LK. 470,000+ candidates

Work Experience

Software Engineer

SYSCO LABS TECHNOLOGIES (PVT.) LTD., LK   *May 2022 - Present*
- Implement cloud-based serverless solutions
- Cloud infrastructure maintenance and Dev-Ops

Software Engineering Intern

SYSCO LABS TECHNOLOGIES (PVT.) LTD., LK   *Oct. 2020 - Mar. 2021*
- Implement test cases to test SOAP endpoints, implement main functionalities to access database and test automation
- Development of RESTful-API, automate endpoint documentation and test automation of REST endpoints
- Mobile application back-end, front-end development and UI test automation

Technical Skills

Languages	Python, Java
Machine Learning	Keras, Scikit-Learn, Pandas, Numpy
Frameworks	Spring-boot, Android
Databases	PostgresSQL, OracleDB, MongoDB
Other	Computer Vision, Model Personalization, Object Oriented Software Development, AWS