PRIYANKA MARY MAMMEN

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RESEARCH INTERESTS

Mobile Health, Human Computer Interaction, Applied Machine Learning, Mobile Computing, Embedded Systems.

EDUCATION

MS/PhD in Computer Science, University of Massachusetts, Amherst   Sept, 2019 - Present

M.Tech in Computational Mathematics, NIT Surathkal   Aug, 2014 - July, 2016

B.Tech in EEE, Cochin University of Science and Technology   July, 2010 - June, 2014

RESEARCH EXPERIENCE

Laboratory for Advanced Software Systems   Sept 2019 - Present
University of Massachusetts, Amherst (Research Assistant under Prof. Prashant Shenoy)

- Development of Scalable mHealth Technologies for Public Health Monitoring.

Smart Energy Informatics Lab   Oct 2016 - Jun 2019
CSE dept, IIT Bombay (Research Associate under Prof. Krithi Ramamritham)

- Energy Efficient Buildings and Thermal Comfort: Deploying and managing sensor networks across the campus, data collection, real time visualisation and analytics on grafana, and inferring insights
- Energy Optimization in Smart Grids: Conducting campus-wide energy awareness surveys and consumer studies, formulating mathematical models and developing algorithms, following heuristic as well as machine learning approaches , and building a reliable infrastructure for resource allocation in smart grids.
- Smart Classroom Complex: Application of Image Processing and Machine Learning algorithms in a Real-time System to determine occupancy and automate the appliances in a given space.

Department of Electrical Engineering   May 2015 - Jul 2016
IIT Bombay (Research Intern under Prof. Virendra R. Sule)

- Development of Solver for XOR Linear Systems that can generate all possible solutions for XOR boolean linear equations.
- Elliptic Curve Arithmetic over extension field: Implemented an elliptic curve addition over extension field using python.

TEACHING EXPERIENCE

Teaching Assistant - CS121: Introduction to Problem Solving with Computers   Sept 2020 - Dec 2020
University of Massachusetts, Amherst

- Duties included holding office hours and leading weekly lab sessions.

Teaching Assistant - CS230: Computer Systems Principles   Sept 2019 - Dec 2019
University of Massachusetts, Amherst

- Duties included holding office hours, taking weekly lab lectures and grading.

OTHER WORK EXPERIENCE

Open Source Solutions Lab   Aug 2016 - Oct 2016
IIT Bombay (Senior Project Technical Assistant under Padma Shri Dr. D.B. Phatak)

- Project: An open source Indian MOOCs platform for massive Indian deployment of MOOCs

PUBLICATIONS

[1] <u>P.M. Mammen</u>, C. Zaccharia, T. Ochir, A. Trivedi, R. Balan and P. Shenoy "WiSleep: Scalable Sleep Monitoring Using Passive WiFi Sensing" *In submission*

[2] <u>P.M. Mammen</u> "Phd Forum Abstract: Scalable mHealth Technologies for Public Health Monitoring." in *the Proceedings of the eighteenth ACM Conference on Embedded Networked Sensor Systems* , Yokohama, Japan, 2020

[3] <u>P.M. Mammen</u>, S. Mehta, H. Kumar, and K. Ramamritham "Want to Reduce Energy consumption, Which Floor should I prefer ?" in *the Proceedings of the eleventh ACM International Conference on Future Energy Systems.*, Melbourne, Australia, 2020

[4] H. Kumar, <u>P.M. Mammen</u> and K. Ramamritham "Explainable AI: Deep Reinforcement Learning Agents for Residential Demand Side Cost Savings in Smart Grids", accepted at *CoRR abs/1910.08719 (2019)*

[5] S. Mehrotra, <u>P.M. Mammen</u>, K. Ramamritham, and R. Bardhan "Data Driven Monitoring of Thermal Profile: Towards Sustainable Urban Habitats", in *the Proceedings of the 10th International Conference on Information and Communication Technologies and Development* , Ahmedabad, India, 2019.

[6] <u>P.M. Mammen</u>, H. Kumar, K. Ramamritham, and H. Rashid "Want to Reduce Energy consumption, Whom should we call ?" in *Proceedings of the ninth ACM International Conference on Future Energy Systems.* , Karlsruhe, Germany, 2018

[7] H. Rashid, <u>P.M. Mammen</u>, S. Singh, K. Ramamritham, P. Singh, and P. Shenoy "Want to Reduce Energy consumption? Don't Depend on the Consumers!" in *the Proceedings of 4th ACM International Conference on Systems for Energy-Efficient Built Environments* , Delft, Netherlands, 2017

[8] S. Pote, B.K. Lande and <u>P.M. Mammen</u>, " Elliptic Curve Arithmetic over extension field to intensify security and privacy." in *the Proceedings of the IEEE International Conference on Wireless Communications, Signal Processing and Networking*, Chennai, India, 20163.

GRANTS

- Assisted Prof. Krithi Ramamritham in writing the research proposal entitled - Customer Selection and Control for Demand Response Events in Smart Grids and received funding from Tata Consultancy Services.

TALKS AND PRESENTATIONS

- Indo - US Symposium on Urban Energy and Informatics (Oral)
- IEEE 2018 Conference on Norbert Wiener in the 21st Century India Events (Poster)

SCHOLORSHIPS AND AWARDS

- Received NeurIPS 2020 Financial Assistance Award (2020)
- CICS Scholarship to attend Grace Hopper Celebration (2020)
- Jim Gray Scholarship in Computer Science (2020)
- UMass Amherst CICS Fellowship Award (2019)
- Financial assistance for Masters Program through GATE MHRD scholarship (2014-2016)

TECHNICAL SKILLS

- Programming: C, C++, Python, MATLAB, Octave, R
- Machine Learning: scikit-learn, Pandas, Keras, Tensor-Flow, Theano, PyMC3
- Databases: SQLite, MySQL, MongoDB
- Embedded Platforms: Arduino, Raspberry Pi

SERVICES

- UMass CICS Community Outreach Student Team Member (Sept'2020 - Present)
- UMass CS Women Social Committee Co-chair (2020)
- UMass CS New Student Committee Member (2020)