

Xiang Li



mrxiangli.github.io



Mrxiangli



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WORK EXPERIENCE

CUMMINS.INC | CONTROL SOFTWARE ENGINEER

Jan 2020 – July 2021 | Columbus, IN

- **Control software interface APIs:** Developed control software interface APIs between Cummins ECM and Bosch fuel system that used on RAM trucks.
- **Cybersecurity software of ECM:** Improved cybersecurity software of ECM to prevent defeated devices that protect company's IP and ensure the product meet government regulation.
- **Model-based control software:** Developed model-based software with simulink for components on trucks such as HVAC, glow plug, and grid heater.

CUMMINS.INC | APPLICATION ELETRONIC CONTROL ENGINEER

Jun 2019 – Jan 2020 | Columbus, IN

- **Calibration Tuning:** Tuned the calibration parameters of certain components in the RAM truck to ensure the proper functionality of the OBD system.
- **Software Validation and Integration:** Integrated transmission software with the mainline. Perform regression tests on new component software and analyze the test result to improve the software reliability.

RESEARCH EXPERIENCE

PURDUE UNIVERSITY | GRADUATE RESEARCH ASSISTANT

Oct 2020 – Present | Dependable Computing System Lab

- Conducting research on reliable edge computing (task scheduling, latency reduction) on heterogeneous edge devices across heterogeneous network, which can be used to achieve low latency computation and enable latency-sensitive applications such as augmented reality.

LEADERSHIP EXPERIENCE

PURDUE UNIVERSITY | GRADUATE TEACHING ASSISTANT

Aug 2021 – Present

- Independently coordinated and instructed 2 sections of students to help them learn about embedded systems and micro controllers.

PROJECTS

WRITE ONCE, RUN ANYWHERE... 2021-2022

- Proposed a feasible algorithm that considers the interference among the co-located tasks to orchestrate the best scheduling scheme for a distributed edge computing framework.
- Implemented a multi-tier edge computing framework(MTEC) that can reduce the end-to-end latency of reduce the failure of application execution and verified with real devices and heterogeneous networks.

PUBLICATIONS

- Conference paper: X. Li, M. Abdallah, S. Suryavansh, M. Chiang, K. Kim, and S. Bagchi, "DAG-based Task Orchestration for Edge Computing" at 41st International Symposium on Reliable Distributed Systems, 2022.
- Conference paper: X. Li, M. Abdallah, Y. Lou, M. Chiang, K. Kim, and S. Bagchi, "Dynamic DAG-Application Scheduling for Multi-Tier Edge Computing in Heterogeneous Networks" at 20th ACM Conference on Embedded Networked Sensor Systems", 2022 (under review).

SKILLS

PROGRAMMING

Proficient:

Python • C • Bash • HTML
SystemVerilog • Assembly •
Embedded C • Julia

Experienced:

Simulink • L^AT_EX

Familiar:

Javascript • Java

LIBRARIES/Frameworks

Pytorch • React

RELATED SKILLS

Edge Computing • Distributed
System • AWS • CAN
Model-based software

EDUCATION

PURDUE UNIVERSITY

Ph.D in Computer Engineering

Aug 2021 - Present | West Lafayette, IN

GPA: 3.65 / 4.0

PURDUE UNIVERSITY

BS in Computer Engineering Aug

2015 - May 2019 | West Lafayette, IN

GPA: 3.89 / 4.0

HONORS AND AWARDS

DEAN'S LIST AND SEMESTER
HONOR

Aug 2015 - May 2019

ELI SHAY SCHOLARSHIP

Sep 2018

ACTIVITIES

PURDUE ELECTRICAL AND
COMPUTER ENGINEERING
HONOR SOCIETY

Aug 2017 - Present

Organizing industry events for
students and volunteer for
community work

IEEE MEMBER

Aug 2017 - Present