Xiang Li

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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

- ➔ My recent research focus has shifted to low-latency, reliable real-time video analytics through collaboration of cameras, edge intelligent devices.
computation and enable latency-sensitive applications such as augmented reality.
- ➔ Performed research on reliable edge computing (task scheduling, latency reduction) on heterogeneous edge devices across heterogeneous network.

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 and 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 • LATEX

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 - May2019

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