Xirui Li

4244679380 | xiruili@g.ucla.edu | LinkedIn | GitHub

Education

University of California, Los Angeles (UCLA) Sep.2022-Jul.2024
Master of Electrical and Computer Engineering *Los Angeles, USA*
- GPA: 3.94

Technical University of Munich (TUM) Oct.2018-Jul.2022
Bachelor of Electrical Engineering and Information Technology *Munich, Germany*
- GPA: 3.84

Technical Skills

Programming Languages: Python, C/C++, Matlab, Java, VBA, RestAPI, MySQL, CUDA, Verilog, VHDL, XHTML
Frameworks: Django, Pytorch, HTML5, CSS **System/Tools**: Linux, Docker, Git, Confluence, Jira

Work Experience

Software Engineer Intern Jul.2023–Sep.2023
Mathworks *Natick, MA*
- Developed HTML Verifier for HDL code generation reports for pattern inspection to improved use cases from 1 to 7 with optimized user experience.
- Performed unit test and system test on individual kernel HDL coder QE test constraints and achieved 100% code coverage for the constraints.
- Reduced coupling degree to 0 and improve robustness for kernel HDL coder 5 mostly-used test constraints calculation by refactoring for both Simulink and MATLAB HDL code generation workflow.

Software Engineer Intern Feb.2021-Jul.2021
BMW Group *Munich, Germany*
- Accelerated *Ticket Maker* script from 5 steps to 3 steps for automated Jira tickets generation by optimizing tickets generation logic and algorithm.
- Developed *Budget Viewer* script to generate ticket-related budgets visualization with customization filter based on VBA and Jira Rest-API, which reduce half-day work to 5 minutes.
- Optimized *Budget Viewer*, reducing reaction time by 96.67% (from 5 minutes to 10 seconds) and streamlined functional redundancy of *Ticket Maker* software.

Research

Research Assistant May.2021 – Oct.2023
University of Alabama at Birmingham *Remote*
- Proposed a novel network by introducing sampling location shifts in the sampling mechanism of the Deformable Detection Transformer.
- Adapting transfer learning by combining Detection Transformer generated proposals and ROI head networks from Faster-RCNN.
- Deployed rotation object detection algorithm using Wasserstein Distance for improved detection accuracy on birdseye dataset.

Research Assistant Jul.2021-Dec.2021
Technical University of Munich *Munich, Germany*
- Investigated visual interpretations for DEtection TRansformers and human-in-the-loop workflows of DEtection TRansformers. [GitHub]
- Interpreted attention mechanism in Deformable DEtection TRansformer in Local Interpretable Model-Agnostic Explanations (LIME) architecture.
- Implemented the Deformable DEtection TRansformer in Caltech Pedestrian dataset.[GitHub]

Projects

Django based Blog System | *Full-stack Web Development* Apr.2023-Jun.2023
- Created a personal blog website with basic article, user, list, comment features based on Django Model-View-Template mechanism.
- Added "multi-level comments" feature on comment system to improve websites ergonomics based on Django-mptt package.
- Implemented "Back to Top" button, footer that sticks to the bottom and a sticky sidebar for persistent navigation.

Battery Monitoring in an Electrical Racing Car | *Embedded System* Feb.2020-Feb.2020
- Developed firmware for car battery by STM32 microcontrollers using CubeMX to monitor over currents and over voltages of the car battery.
- Created a reliable and efficient process for monitoring the car battery, ensuring accurate detection and protection against excessive currents and voltages
- Designed a custom motherboard for STM32 microcontrollers using Eagle software and conducted thorough testing of the motherboard under various scenarios.