

Liyang Xu

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EDUCATION

Shanghai Jiao Tong University

Sept 2019 - Aug 2023

University of Michigan-Shanghai Jiao Tong University Joint Institute

B.E. in Electrical and Computer Engineering

Overall GPA: 3.77/4.0

GPA Ranking: 17/255

Core Courses: Programming and Elementary Data Structures(A), Data Structures and Algorithms(A+), Intro to Computer Organization(A), Digital Signal Processing and Analysis(A), Intro to Signals and Systems(A+), Intro to Data Science(A+)

Honors: Undergraduate Excellence Scholarship (2020-2021, top 10%), John Wu and Jane Sun Sunshine Scholarship (2020-2021), Undergraduate Academic Progress Scholarship (2020-2021), etc.

RESEARCH EXPERIENCES

High Level Synthesis | Shanghai Jiao Tong University | Research Assistant

Sept 2021- Present

Advisor: Weikang Qian, Associate Professor at UM-SJTU Joint Institute, Shanghai Jiao Tong University

- Studied the existing code of HLS tool and debugged potential errors
- Designed and improved a compiler compiling codes written by high-level language (C++/Python) into hardware-description language (Verilog HDL) that can be used to synthesize an FPGA
- Developing new features to support floating point arithmetic

Electronic Design Automation: Synthesis, Verification and Test | Shanghai Jiao Tong University

Mar 2021 - Aug 2021

Advisor: Weikang Qian, Associate Professor at UM-SJTU Joint Institute, Shanghai Jiao Tong University

- Read source code of a software system for synthesis and verification of logic circuits designed by UC Berkeley
- Collaborated on a research project to optimize the complexity of digital circuit based on the system above
- Test our algorithm on the EPFL combinational benchmark suite

Selected Projects

Satisfiability(SAT) | C++ | *Data Structures and Algorithms*

Nov 2020

- Designed and implemented a solver for a NP-complete problem — satisfiability of a Boolean expression

Self-made Shell | C | *Operating Systems*

Oct 2021

- Implemented a self-made shell program processing basic bash-like command lines based on Linux

Price Prediction | Python | *Intro to Data Science*

Mar 2022

- Fit a model to a few numeric and text features to predict housing prices and improved the model's performance

WORKING EXPERIENCES

UM-SJTU Joint Institute | Shanghai Jiao Tong University | Teaching Assistant

Jul 2021 - Present

- Assisted in teaching courses: Physics Lab, Electromagnetics, Signals and Systems

LEADERSHIP AND ACTIVITIES

Art Center, Student Union, UM-SJTU Joint Institute

Mar 2021 - Aug 2021

- Organized Winter Dance Party, Campus Singer Contest and Welcome Party for the Freshmen
- Responsible for providing technical aid to the poster and stage property

International University Physics Competition | Team Leader

Oct 2020

- Led a team of 3 students to participate in physics modeling contest including researching papers, constructing models, analyzing through mathematical tools and presenting a final report.
- Won silver medal prize (top 10% of the participants)

SKILLS

Programming Languages: C/C++, Python, Verilog, shell, tcl

Software/Libraries: LaTeX, MATLAB, Mathematica, git, Pandas, Jupyter

TOEFL: Total 100 (Reading 28, Listening 25, Speaking 22, Writing 25)