

# Yihua Liu

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## EDUCATION

**Shanghai Jiao Tong University (SJTU)**, Shanghai, China      **September 2018 – June 2022 (Expected)**  
Bachelor of Science, Electrical and Computer Engineering

❖ Cumulative GPA: 3.16/4.00

**Peter the Great St. Petersburg Polytechnic University**, Peter the Great St. Petersburg, Russia  
**January 2020 – February 2020**

International Polytechnic Winter School, Smart Manufacturing and Digital Future

## RESEARCH EXPERIENCES

**Design of Integrated Microrobotic Fish**, VE490 Undergraduate Research Program  
**February 2021 – May 2021**

Professor: Xuyang Lu, Assistant Professor at UM-SJTU Joint Institute

- ❖ Design and fabricate a microfluidic chip and channel
- ❖ Simulate the performance of the chip by MATLAB and COMSOL Multiphysics

**Optimization of Placement and Routing in VLSI**, UM-SJTU Joint Institute Research Intern Program  
**May 2021 - present**

Professor: Xinfei Guo, Assistant Professor at UM-SJTU Joint Institute

- ❖ Optimize the deep learning algorithms for placement and routing in VLSI

## PROFESSIONAL HISTORY

**Tongfang Co., Ltd.**, Beijing, China      **December 2019 – January 2020**

*Electrical Engineer*

- ❖ Improved the SCADA system of a thermal power company
- ❖ Analyzed the data collected from a thermal power station for the past 6 months

## SELECTED PROJECTS

**MIPS Processor Design**, VE370 Intro to Computer Organization      **November 2020**

- ❖ Implement a five-stage pipeline with forwarding unit and hazard detection unit
- ❖ Design caches both direct-mapped and 2-way-associative with write-through and write-back

**Gesture-Controlled Mantis Robot**, VE373 Design of Microprocessor Based Systems      **July 2021**

- ❖ Build a gesture-controlled robot that can avoid obstacles using PIC32

## HONORS & AWARDS

The Third Prize of UM-SJTU Joint Institute 2019 Winter Social Practice Program      March 2019

Best Technology Award of Project Design in the 2019 Summer Vg100      August 2019

The Excellent League Member of Shanghai Jiao Tong University      May 2020

Student Development Scholarship of SJTU Joint Institute      June 2020

## EXTRACURRICULAR ACTIVITIES

**Miyuan Youth Volunteer Team**, *Human Resources Department*      July 2019 – July 2020

**SJTU Student Career Development Union**, *Human Resources Department*      July 2019 – July 2020

**Teaching Assistant**, *VR238 British Empire and “Informal” Imperialism in the Nineteenth-Century*  
May 2021 – present

**Volunteer for the 2019 Shanghai International Marathon**      November 2019

## SKILLS & CERTIFICATIONS

TOEFL 97 (30/25/17/25)

Skilled in C/C++, Linux, MATLAB, Python, TypeScript, Visio, COMSOL, KLayout, and LaTeX

Experienced in COMAP's Mathematical Contest in Modeling (MCM)