

# Siyi Chen

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## EDUCATION

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**University of Michigan-Ann Arbor**, College of Engineering, Michigan  
**B.S.E Computer Science Engineering, Minor Mathematical Science** **Sept 2020 - May 2022**

- Cumulative GPA: 4.0/4.0
- Coursework: Computer Vision(A), Machine Learning(A), Computer Architecture(A), Graph and Combinatorics(A+), Linear Algebra(A+), Algorithm, Compiler, Database, Linear Programming

**Shanghai Jiao Tong University**, University of Michigan-Shanghai Jiao Tong University Joint Institute, Shanghai, China

**B.S.E. Electronic and Computer Engineering** **Sept 2018 - Aug 2022**

- Coursework: Probabilistic Methods in Engineering(A), Honorable Mathematics(A), Electronic Circuits, Signals and Systems, Logic Design, Electromagnetics

## RESEARCH EXPERIENCE

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**Computer Vision for Physical and Functional Understanding** **May 2021 – Present**  
**University of Michigan, Research Assistant**

*Advisor: David Foubey, Assistant Professor / University of Michigan*

- Jointly optimize 3D human and articulated planes with differential rendering in an unsupervised way
- Generate synthetic 3D dataset of moving objects using SAPIEN

**Convex Presentations of Translation Surfaces** **Jan 2021 - Apr 2021**  
**University of Michigan, Research Assistant**

*Advisor: Chaya Norton, Postdoctoral Assistant Professor / University of Michigan*

*Paul Apisa, Donald J. Lewis Research Assistant Professor / University of Michigan*

- Design and implement an enumeration algorithm to generate origamis in genus 2 using Sage
- Implement the Lelièvre-Weiss Strict Convexity Test algorithm using Sage

**Video Anomaly Detection** **July 2021 – Sept 2021**  
**Shanghai Jiao Tong University, Research Assistant**

*Advisor: Xu Zhao, Professor / Shanghai Jiao Tong University*

- Reproduce a multi-task approach of video anomaly detection with deep neural networks using TensorFlow
- Start experimenting multi-task approach to detect human violence in videos

**Design a 3D Scanning Camera to Detect the Surface Damage of Battery Packs** **Jan 2021 - May 2021**  
**Shanghai Jiao Tong University, Research Assistant**

*Advisor: Peisen Huang, Dean and Professor / Shanghai Jiao Tong University*

- Implement a pinhole camera model and a lens camera model using Python
- Conduct camera calibration using Zhang's method using MATLAB

**A New Microwave Imaging Method in Human Skull Based on Artificial Intelligence**  
**Shanghai Jiao Tong University, Research Assistant** **Oct 2019 - Aug 2020**

*Advisor: Hongli Peng, Associate Professor / Shanghai Jiao Tong University*

- Implement GUIs for signal processing using Python Tkinter
- Simulate the distribution of microwave energy in human skull under different conditions and try to find ways to concentrate the energy on target positions using CST

## TEACHING EXPERIENCE

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**Teaching Assistant for Probability Statistics Methods** **Apr 2020 - Aug 2020**  
*Instructor: Horst Hobberger, Professor / Shanghai Jiao Tong University Joint Institute, Shanghai Jiao Tong University*

**Teaching Assistant for Honorable Mathematics III** **Oct 2020 - Dec 2020**  
*Instructor: Horst Hobberger, Professor / Shanghai Jiao Tong University Joint Institute, Shanghai Jiao Tong University*

## HONORS & AWARDS

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**Gold Medal Winner** of the 2019 University Physics Competition (UPC) **Dec 2019**

**The Roger King Scholarship** in University of Michigan **Aug 2021**

**University Honors** in University of Michigan, twice **Apr 2021, Dec 2020**

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<b>Dean's List</b> in University of Michigan	<b>Dec 2020</b>
<b>Honorable Mention</b> of the 2020 Mathematical Contest in Modeling (MCM)	<b>May 2020</b>
<b>Excellent Manager</b> in the Academic Center of the SJTU Student Union	<b>Oct 2019</b>
<b>VG100 Best Technology Award</b> in 2019 UM-SJTU JI Summer Design Expo	<b>Aug 2019</b>

## LEADERSHIP & ACTIVITIES

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<b>SJTU Student Union</b> , Academic Center, Manager	<b>Mar 2019 - Nov 2020</b>
<ul style="list-style-type: none"> <li>▪ Lead organization teams for SJTU Debate Competitions</li> <li>▪ Participate in organizing the Second Term of Shanghai College Student Debate Competition</li> </ul>	
<b>SJTU Student Club Community</b> , Design Center, Director	<b>May 2019 - Jan 2021</b>
<ul style="list-style-type: none"> <li>▪ Lead Design Teams for Campus Events such as SJTUers' Festivals</li> <li>▪ Give lectures at SJTU Student Club General Meetings.</li> </ul>	

## SKILLS

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**Languages:** Python, C++/C, MATLAB, SQL, Java, HTML, Sage, Rust, Verilog  
**Tools:** CUDA, GitHub, GitLab, Google Colab, Mathematica, docker  
**Environment:** PyTorch, TensorFlow, Conda