




Zhenyuan (Desmond) Liu

Research Intern, Institute of Science and Technology Austria (ISTA)

Advisor: Prof. Bernd Bickel

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Publication

Zhenyuan Liu, Jingyu Hu, Hao Xu, Peng Song, Ran Zhang, Bernd Bickel, Chi-Wing Fu: “Worst-Case Rigidity Analysis and Optimization for Assemblies with Mechanical Joints”, *Computer Graphics Forum (Eurographics 2022)*.

Education

The Chinese University of Hong Kong (CUHK) 2017.09 – 2021.07

BSc. in Computer Science. First Class Honors. Major GPA: 3.95/4.00.

University of Toronto 2020.01 – 2020.04

Exchange Program

Research Experience

Internship Project: Computational Embroidery 2021.09 – Present

- Advisor: Prof. Bernd Bickel, ISTA
- Recreate a chromatic image in the real world using a programmable sewing machine
- Model the stitch pattern, optimize the color accuracy, and incorporate user-specified structures

Graduation Project (EG 22): Rigidity Analysis for Assemblies 2020.07 – 2021.09

- Advisor: Prof. Fu Chi-Wing, CUHK and Prof. Bernd Bickel, ISTA
- Proposed a metric to measure rigidity of assemblies and devised algorithms to improve the rigidity
- Designed and conducted physical experiments with LEGO and 3D-printed parts

Summer Project: Saving Computation by Slicing Neural Networks Using SVM 2020.06 – 2020.09

- Advisor: Prof. Anand Sarwate, Rutgers University
- Funded by Professor Charles K. Kao Research Scholarship
- Collected intermediate data of neural networks and used SVM to do binary classification for early stopping

Summer Project: Generating Adversarial Examples in Text Classification 2019.06 – 2019.09

- Advisor: Prof. Michael R. Lyu, CUHK
- Faculty 2019 Summer Research *Best Project Award* out of more than 40 participants
- Attacked state-of-the-art text classifiers via white-box and black-box methods and compared the results

Awards and Honors

Arthur and Louise May Memorial Scholarship 2020

Professor Charles K. Kao Research Exchange Scholarship 2020

Yasumoto International Exchange Scholarship 2019

Outstanding Academic Performance Scholarship, Dept. of CSE 2018/19, 19/20

ELITE Stream Scholarship, Fac. of Engineering 2017/18, 18/19, 19/20, 20/21

Dean's List, Fac. of Engineering 2017/18, 18/19, 19/20

Work Experience

Backend Development Intern, Tencent, China 2021.01 – 2021.06

- Maintained the backend billing platform that processes millions of API invocations for the cloud services
- Developed using Golang the backend of an internal data platform service

Skills

Programming Python (PyTorch, NumPy), C/C++ (Eigen), Go, JavaScript, Clojure, Dart
Languages Mandarin (Native), English (Proficient), Cantonese (Proficient), German (Beginner)