

# Liu Zhenyuan (Desmond)

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## Education

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**The Chinese University of Hong Kong (CUHK)** 2017.08 – 2021.07 (expected)  
BSc. in Computer Science. GPA: 3.xx/4.00

**University of Toronto** 2020.01 - 2020.04  
Exchange Program

## Research Experience

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**Thesis: Analyzing Motions and Stiffness of the Multi-Joint Assemblies** 2020.07 - Present

- Advisor: Prof. Fu Chi-Wing, CUHK
- Aim to submit this work to ACM TOG.
- Model an assembly structure with different mechanical joints, using the idea of rigidity matrix and formulate an optimization problem. Then solve it to predict free motions, measure and optimize structural stability of the assembly structure.

**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 in the middle layers of neural networks and used SVM to do binary classification for early stopping during inference time to save computation.

**Generating Adversarial Examples in Text Classification** 2019.06 - 2019.09

- Advisor: Prof. Michael R. Lyu, CUHK
- Faculty 2019 Summer Research *Best Project Award*
- Attacked state-of-the-art text classifiers (mainly neural nets) via white-box and black-box methods, then compared and analyzed the results of different attack strategies.

## Work Experience

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**Backend Development Intern, Tencent, China** 2020.01 - Present

- Develop and maintain the backend billing platform for the cloud security services provided by Tencent Cloud in close collaboration with other team members.
- Reconstruct current C++ and python program with Golang to reach higher robustness and availability, processing millions of requests per day from different locations worldwide within 500ms of delay.

## Awards and Honors

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Arthur and Louise May Memorial Scholarship 2020

Professor Charles K. Kao Research Exchange Scholarship 2020

Outstanding Academic Performance Scholarship, Dept. of CSE 2018/19, 2019/20

ELITE Stream Scholarship, Fac. of Engineering 2017/18, 2018/19

Dean's List, Fac. of Engineering 2017/18, 2018/19, 2019/20

## Skills

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### Professional Skills

- Programming Languages (Proficient): Python, C/C++
- Programming Languages (Familiar): Go, Java, JavaScript, TypeScript, Clojure, HTML/CSS, Dart, R
- Scientific Computing and Learning: Eigen, TensorFlow, PyTorch, scikit-learn
- Web/Mobile/Desktop Development: Vue, Flutter, React Native, Electron
- Cloud and Big Data: AWS, Hadoop

### Language Skills

- Mandarin (Native), English (Proficient), Cantonese (Familiar)