

YuHaoWang

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EDUCATION

University of Toronto	Toronto, ON
MEng in Mechanical & Industrial Engineering	Sep 2021 – Present
<ul style="list-style-type: none">Cumulative GPA: 3.74/4.0Coursework: Introduction to Machine Learning, Introduction to Deep Learning, Foundations of Data Analytics and Machine Learning, AI Application in Robotics, Intelligent Robots for Society, Digital Image Processing and Applications, Perception for Robotics, Blockchain Technologies and Cryptocurrencies(on-going)	
Beijing University of Technology	Beijing, China
BEng in Renewable Energy Engineering	Sep 2017 - May 2021
<ul style="list-style-type: none">Cumulative GPA: 3.74/4.0Candidate of Study Abroad Talent Program Fully Funded by Beijing Municipal Education Commission	
University College Dublin	Dublin, Ireland
<ul style="list-style-type: none">Cumulative GPA: 3.76/4.0	Aug 2018 - May 2020

EXPERIENCE

Research Assistant	Toronto, ON
Machine Learning Project	Nov 2022 – Present
<ul style="list-style-type: none">Applied <i>Bayesian optimization</i> to find the optimal printing setting for 3D printing for the highest printing relative density.Fine-tuned <i>Bayesian model</i> to achieve the best performance under different evaluation metric (e.g., <i>likelihood score</i> of -42, <i>RMSE</i> of 0.137).Visualized and compared different results for 2D and 3D parameters with <i>Matplotlib</i> and <i>Pandas</i>.Successfully <i>predict</i> the final relative density under different printing settings prior to printing process.	
Classroom Ambassador	Toronto, ON
Learning Space Management	May 2022 – Present
<ul style="list-style-type: none">Provided real-time, personalized technical <i>support</i> for instructors.Provided hands-on direct technical <i>support</i> and orientation to the classroom instructor during class time.Developed a range of technological and teamwork <i>skills</i>, as well as the opportunity to work closely with U of T instructors to help them <i>enhance</i> the student experience through technology.Acquired a variety of technological, interpersonal, and job-ready skills.	
EHS Department Intern	Beijing, China
Asia Clean Capital Ltd. (ACC)	June 2020 – Sep 2020
<ul style="list-style-type: none">Assisted in the process of site selection, contractor comparison, theoretical value calculation, operation and maintenance, and subsequent upgrading.Gained a deeper insight into the application of photovoltaic power generation and its supporting facilities.Working with EHS Manager, compiled technical documents and company manuals for <i>ISO14001</i> and <i>45001</i> certifications; made relevant forms and documents; audited, revised, and updated the documents as required.Successfully obtained the <i>ISO Certification</i> issued by <i>DNV</i>.	

PROJECT

Model Distillation	Toronto, ON
<ul style="list-style-type: none">Built and trained a <i>shallow</i> network that distills the knowledge from a deep network and has the <i>similar performance</i> with the deep network.The shallow network performance leveled with the deep network (<i>f1 score: 0.72 to 0.75</i>), with 0.07% of the number of parameters (<i>2.5k to 3.8 million</i>) and one tenth the FLOPS (<i>0.61 billion to 7 billion</i>) of the deep network on MHIST dataset.	
Data Distillation	Toronto, ON
<ul style="list-style-type: none">Distilled (Compressed) a large dataset into a <i>small</i> dataset that has a <i>similar training outcome</i>.Compressed the MNIST dataset into <i>5 images per class</i> with final accuracy of <i>90.78%</i> and training time of <i>0.46 second</i> in total.Compressed the Fashion MNIST dataset into 5 images per class with final accuracy of <i>75.53%</i> and training time of <i>0.46 second</i> in total.Performance was <i>consistent</i> in model cross-validation.	

SKILLS

Language: C, Python (NumPy, Pandas, PyTorch, Matplotlib, Scikit-learn, TensorFlow, OpenCV), MATLAB
Machine Learning: CNN, LSTM, GAN, kNN, Decision Tree, Knowledge Distillation, YOLO2D & 3D detection,
Other: Bayesian optimization, Feature Matching, Point Cloud Registration (All code can be found at <https://github.com/YuHao-Wang-EL3MENT>)