

Frank Yu

Curriculum Vitae

Winnipeg, Manitoba, Canada

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Education

- 2015 – 2020 **University of Manitoba, Bachelors.**
Department of Electrical and Computer Engineering
President Scholar, Dean's Honor List
GPA: 4.47/4.50
Concentration: Power and Energy Systems Engineering
Capstone Project: "Smart DC Solar Lighting Enclosure for Microgrid Applications"

Research Experience

- Fall 2019 - **University of Manitoba Computer Vision Group Member.**
Present **Supervisor: Professor Yang Wang**
- Trained an anomaly detection model to detect people falling in RGB-D data
 - Implemented, trained and tested a meta-learning approach for scene adaptive anomaly detection in videos
 - Created a custom data loader for performing meta-learning training
 - Helped write two academic papers summarizing the findings of my projects
- Summer 2019 **NSERC Undergraduate Research Assistant (AI).**
Supervisor: Professor Ahmed Ashraf (University of Manitoba)
- Researched different methods/objective functions for anomaly detection using generative adversarial networks (GANs)
- Summer 2017/2018 **NSERC Undergraduate Research Assistant (Power Systems).**
Supervisor: Professor Shaahin Filizadeh (University of Manitoba)
- Designed, implemented and tuned a real time fuzzy logic control system for high voltage DC-DC converters

Publications

- CVPR 2020 **Research on applying meta-learning to anomaly detection, Title removed for double-blind review.**
Frank Yu*, Yiwei Lu*, Mahesh Kumar Krishna Reddy and Yang Wang
* indicates equal contribution
- In Progress **Research on anomaly detection using predictive models, Title removed for double-blind review.**
Yiwei Lu, **Frank Yu**, and Yang Wang

Industry Experience

- 2015 – 2017 **Manitoba Hydro International: HVDC Research Center.**
- Assisted engineers with consulting projects and developed an automatic substation creation program for PSCAD

Scholarships

2017 - 2019	NSERC Undergraduate Research Award	\$27,000
2016, 2017	University of Manitoba Retention Scholarship	\$8,000
2019	Leonard A. Bateman Scholarship for Electrical Engineering Power Option	\$7,225
2018	Ernest M. and Margaret Scott Memorial Scholarship	\$5,500
2018	Grettir Eggertson Memorial Scholarship	\$3,800
2016 - 2018	President Scholarship	\$3,000
2015	UM Queen Elizabeth II Entrance Scholarship	\$3,000
2016 - 2018	UMSU Scholarship	\$2,200
2016	Isbister Scholarship in Engineering	\$2,075
2017	Faculty of Engineering Centenary Scholarships	\$2,000
2019	MSBI Scholarship Fund	\$1,425
2016, 2018	Dr. Kwan Chi Kao Scholarship in Electrical Engineering	\$1,200
2017	Engineering Academic Excellence Award - Electrical Engineering	\$1,100
2018	Andrew Fung Memorial Scholarship	\$1,000
2017	Douglas and Beverly Ruth Centenary Award in Engineering	\$775
2016	Manitoba Schools Science Symposium Scholarships	\$725
2016	Advanced Placement & IB Enhancement	\$600
2018	Muriel Brooks Childerhose Memorial Scholarship	\$350
2015	Price Industries Limited Entrance Scholarships for Engineering	\$250

Honors and Awards

2019	IEEEExtreme 24-Hour Programming Competition	1st U of M/6th Canada
2019	IEEE Winnipeg Section Prize for B.Sc. Design Project	3rd Place
2018	IEEEExtreme 24-Hour Programming Competition	1st U of M/12th Canada
2018	Canadian Engineering Competition - Debate	5th Place
2018	Western Engineering Competition - Debate	2nd Place
2017	University of Manitoba Engineering Competition - Debate	1st Place
2017	IEEEExtreme 24-Hour Programming Competition	2nd U of M/17th Canada

Extracurriculars

- Fall 2019 - **University of Manitoba agBOT Team**, *Computer Vision Team Member*.
Present Designed and trained a real time classifier for corn and various types of weeds for an autonomous tractor
- Fall 2019 - **DataCup: Leaders Prize: Fact or Fake News?**, *Team: MLAIR*.
Present Assisted on a team which tried to identify whether claims were false, partially true or true using neural networks