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 - Present **University of Manitoba Computer Vision Group Member**.
Supervisor: Professor Yang Wang

- Trained an anomaly detection model on a fall dataset
- 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
- Currently working on two papers reporting the results of my work

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

Under Review **Few-Shot Scene Adaptive Anomaly Detection**.
Frank Yu*, *Yiwei Lu*, Mahesh Kumar Krishna Reddy and Yang Wang*
* indicates equal contribution

In Progress **Anomaly Detection using Generative Sequential Models**.
*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	IEEEXtreme 24-Hour Programming Competition	*1st U of M/6th Canada*
2019	IEEE Winnipeg Section Prize for B.Sc. Design Project	*3rd Place*
2018	Canadian Engineering Competition - Debate	*5th Place*
2018	Western Engineering Competition - Debate	*2nd Place*
2018	IEEEXtreme 24-Hour Programming Competition	*1st U of M/12th Canada*
2017	University of Manitoba Engineering Competition - Debate	*1st Place*
2017	IEEEXtreme 24-Hour Programming Competition	*2nd U of M/17th Canada*

Extracurriculars

Fall 2019 - Present **University of Manitoba agBOT Team**, *Computer Vision Team Member*.
Designed and trained a real time classifier for corn and various types of weeds

Fall 2019 - Present **DataCup: Leaders Prize: Fact or Fake News?**, *Team: MLAIR*.
Assisted on a team which tried to identify whether claims were false, partially true or true using neural networks