Jingfeng Pan

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EDUCATION BACKGROUND

York University, Lassonde School of Engineering **Toronto, ON**
B.Sc. in Computer Science (Hons.) | First Class Standing With Distinction *Jan. 2020-Aug. 2023*

- Overall GPA: 8.01/9 | Major GPA: 8.29/9 | Ranking Top 5% | Member of the Dean's Honour Roll
- Relevant Coursework: Linear Algebra, Data Structures, Discrete Techniques for Computing, Signals and Systems Theory, Operations Research, Software Engineering, Operating System, Machine Learning, Data Mining, etc.

SKILLS

Programming Languages: C, C++, Java, Python, JavaScript, SQL, React, MATLAB, R
Data Science Libraries: NumPy, SciPy, Panda, Scikit-Learn, TensorFlow, Scrapy, Matplotlib, Seaborn, Selenium, PyTorch
OS: Windows, Linux, Android Q, iOS, macOS

RESEARCH PROJECT EXPERIENCE

EECS 4088 Course Project: Optimizing Data Compression Using Online Clustering for Data Migration
Team Member | Supervisor: Prof. Aijun An | Industry Sponsor: IBM *Oct.2022-present*

- Proficient in Gzip, LZ4, and Zstandard. Applied clustering algorithms to large textual datasets to increase compression ratios for improving data migration performance, which was the first attempt in this field.
- Developed models for measuring data migration throughput and costs, contributing to enhanced understanding in the domain.
- Published "Optimizing Data Migration Using Online Clustering" as first author at CASCON 2023.
- Finished all coding work for the entire project independently in Python, gained sufficient knowledge in clustering algorithms, classification models, data preprocessing, and data visualization.
- Achieved a 100% increase in throughput at 160Mbps network speed through a blend of online classification, offline clustering, and multiprocessing. New research has been compiled in a paper and set for submission to VLDB 2024.

Project: Attentive Sensing for Long-Range Face Recognition
Research Assistant | Supervisor: Prof. James Elder; Dr. Helio Perroni Filho *Sep.2022-Apr.2023*

- Aimed at designing and manufacturing a robot with long-range face recognition function
- Studied Ubuntu, docker, and ROS for robot design with long-range face recognition, implemented image reading programs in PyTorch, and maintained code.
- Applied Haar-Cascade, HoG+SVM, and MTCNN in OpenCV for face detection, and used deep learning for recognition.
- Balanced resolution and field-of-view by merging wide-angle cameras for general detection with a high-resolution, mirror-assisted camera, enabling effective face recognition up to 35 meters away in real-world settings.

EXPLORE Project: ECOs from the Dark
An international research program jointly hosted by York University, University of Alberta, Goethe University and Washington University in St. Louis.
Team Member | Supervisor: Prof. Laura Sagunski (Goethe University) *Sep.2022-Apr.2023*

- Engaged in the EXPLORE Project: ECOs from the Dark, enhancing Python skills for LIGO data analysis and contributing code for future dark matter cores research, while attending specialized lectures on neutron stars, ECOs, and gravitational waves.
- Developed an artificial neural network to model the effects of dark matter cores on neutron stars and gravitational waves, utilizing stratified sampling and SHAP analysis to improve predictive accuracy and provide valuable insights in astrophysics.

Project: Questions Generation from Text
Research Assistant | Supervisor: Prof. Aijun An *May.2022-Jan.2023*

- Managed data gathering, sorting, and analysis via Amazon Mechanical Turk, designed various interfaces, and structured data sheets.
- Utilized MTurk for efficient team collaboration and project management.

INTERNSHIP

E-Learning Internet Technology Learning Corporation **Toronto, ON**
Paid Intern | Technical Department *Feb. 2020-May 2021*

- Led the design and development of a suite of webpages for customer registration and administration in an E-Learning APP, employing HTML, CSS, PHP, Python, JavaScript, MySQL, and Apache to create a seamless interface.
- Enhanced my backend development skills through self-study in MySQL and expanded my expertise in front-end technologies like React, React Native, and iOS App development, achieving a comprehensive grasp of the full project development cycle.

AWARDS & HONORS

- Lassonde Undergraduate Research Award (LURA) – Summer 2023
- York University Continuing Student Scholarship – Fall/Winter 2020; Fall/Winter 2021; Fall/Winter 2022
- York University International Scholarship of Merit – Summer 2020; Fall/Winter 2020