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# CHENHAO ZHU

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## EDUCATION

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### University of Toronto, Master of Mechanical and Industrial Engineering, 2022/09 - 2023/11(Expected)

- Emphasis In Analytics;
- Courses: Computational Finance and Risk Management, Deep learning, Machine Learning, AI in finance

### Queen's University, Bachelor of Science(Honors), 2018/09 - 2022/06

- Cumulative GPA [3.89/4.33]; Major in Statistics, Minor in Computing;
- Courses: Time series Analysis, Statistical Learning, Artificial Intelligence, Human-computer Interaction

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## SKILLS

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- Technical Proficiency in Python & R, MySQL, PHP & Java;
- Machine Learning and Deep Learning(Pytorch, tensorflow);
- Web Development Skills in HTML, CSS, JavaScript, Bootstrap;
- Data Analytics in Tableau, PowerBI, SAS;

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## EXPERIENCE

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### Data Analysis Intern, 05/2021 - 07/2021

#### Shanghai Yagao Communication Co., Ltd. - Shanghai, China

- Used Python to develop website crawlers, effectively grabbing and compiling relevant information from web pages; employed Xpath and requests library in python;
- Generated background reports, merging multiple tables and automatically generating PivotTables in pandas;
- Analyzed social media comments on public posts such as Tik Tok, TopBuzz to identify keywords; determined customer trends and preference.

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## PROJECT

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### Healthcare Machine Learning, 09/2022 - 12/2022, Volunteer Researcher

- Used multiple machine learning models to predict whether patient at Gemini Toronto Hospital has delirium, given basic information and 200 trials' data;
- Compared model performance based on first 5 years and second 5 years in the same feature space.
- Prepared patients' data as time object, storing start time and end time information about diagnosis, lab, and intervention. Applied data analysis to produce individual timeline for patients during the hospital.

### Weather Classification and Image Style Transfer, 10/2022 - 11/2022

- Applied three deep learning models: Simple CNN(6 layers), Resnet101, VGG16, to predict weather in five types (rainy, cloudy, sunny, foggy, sunrise). All three models are built using Pytorch; Used real-world car videos got from Youtube to test all models; applied CV2 library to get the instant image every 24 frames and save them into corresponding image folders. The best testing accuracy is 85.7%, using resnet101.
- Applied CycleGAN to convert rainy and foggy weather images into cloudy weather images.

### Database application with online flight booking system, 03/2021 - 04/2021

- Used PHP, CSS, and MySQL to make a simple flight ticket booking system; Coded website in PHP and CSS, showing the ticket information such as the time and place of departure and arriving;
- Used MySql to design and build a database to ensure that users can update information successfully according to different operations. for example, find a needed flight ticket, modify the information of a flight ticket, purchase a flight ticket, etc.;

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## EXTRACURRICULAR EXPERIENCE

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### Marketing Member, 09/2020 to 12/2020

#### Aranyaka Kingston+ - Kingston, Canada

- Aranyaka is a student-led organization at Queen's University which aims to gather and publish news related to upcoming events and workshops for international Chinese students
- Gathered relevant articles pertaining to career opportunities and published onto Aranyaka's official social media pages
- Designed and developed engaging posters for upcoming events to increase student engagement, participation rates and brand awareness