

## EDUCATION

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- **University of Alberta** Edmonton, Alberta, Canada  
*Bachelor of Science, Specialization in Computing Science* Sep 2020 - Jul 2024
  - Major GPA: 3.7/4.0; Dean's Honor Roll with Major; Undergraduate Scholarship.

## WORK EXPERIENCE

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- **University of Alberta** Edmonton, Alberta, Canada  
*Teaching Assistant, Practical Programming Methodology* Sep 2022 - May 2023
  - Prepared lecture materials about data structure in **C** language and **Unix/Linux** environment knowledge.
  - Led three-hour lab, problem-solving session, one-on-one weekly office hours and Q&A, reinforcing certain easily confused concepts covered by faculty, decreasing at least 15% workload for the instructor.
  - Increased efficiency and saved at least 50% in time costs by collecting all the common mistakes from previous assignments and creating a special marking scheme, which includes all the possible mistakes.
- **RUI CHENG Technology Co., Ltd.** Chaoyang, Beijing, China  
*Java Full-Stack Developer, Factory Smart Safety Monitoring System* Mar 2022 - Sep 2022
  - Utilized the **JeeSite** framework for the project foundation, implemented backend solutions using **Spring MVC**, **MyBatis**, and **MySQL**. Enhanced and optimized front-end pages by using **JQuery**, **Bootstrap UI**, and **JSP**.
  - Developed the Controller, Service, and Dao layers according to specific business requirements, which creates a solid foundation for future maintenance and reduced backend bugs by around 10%.
  - Packaged statistical results to display on **JSP** pages and utilized **Echarts** to display data.
  - Utilized **Ajax** and **Spring MVC** tags for synchronizing database and fixed certain legacy bugs with the team, enhancing system reliability and stability by reducing bug incidence by around 20%.

## RESEARCH EXPERIENCE

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- **University of Alberta** Edmonton, Alberta, Canada  
*Research Assistant, Compressed Neural Networks on Android Devices* Sep 2023 - Present
  - Packaged the **frequency regularization** compression algorithm into a **Python library**, now available for installation via the pip command: `pip install frereg`.
  - Optimized the frequency regularization on **U-Net**, decreasing **random access memory (RAM) usage by approximately 40%** while maintaining around 97% accuracy of the original results.
  - Pioneered the development of an **Android application** featuring image segmentation, being the first to deploy frequency regularization and our creative optimized versions for model compression.
  - Expanded the frequency regularization to additional models such as **Alex-Net** and **Res-Net**, fine-tuning the algorithm to align with the distinct requirements of these diverse models.
- **Changzhou University** Changzhou, Jiangsu, China  
*Research Assistant, Brain-Computer Interface Based on Multi-Modal Fusion* May 2023 - Dec 2023
  - Conducted a review of existing papers on Brain-Computer Interface (BCI) to determine a research proposal and delved into papers on Multimodal Fusion to complete the literature review independently.
  - Collaborated closely across teams specializing in brain science to study the cognitive attributes of the human brain.
  - Researched various features of **Electroencephalogram (EEG)** signals and implemented **Convolutional Neural Networks (CNNs)** coupled with feature fusion for efficient signal processing and classification.
  - Utilized state-of-the-art **Recurrent Neural Networks (RNNs)** to decode and analyze cognitive information from high-resolution signals captured by **Electrocorticography (ECoG)**, increasing at least 5% accuracy.

## PROJECT EXPERIENCE

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- **Directory of Support Resources for Social Enterprises - Website** Edmonton, Alberta, Canada  
*Django, React JS, PostgreSQL, Docker* Dec 2022 - Apr 2023
  - Developed a website that is similar to LinkedIn, serving 90% of social organizations and enterprises in Alberta.
  - Built the front-end, back-end, and database using **React JS**, **Django Framework**, and **PostgreSQL** respectively.
  - Made end-to-end testings **Jest** by accessing the DOM via **jsdom** and made testing report by using **Katalon** and loaded the given data from our client (AB-Seed) and refactored database structure by changing fields.
  - Deployed the project using **Docker** and **Cybera** which is Alberta's Optical Regional Advanced Network.
  - Enhance the user experience by adding a mobile version and improving the searching functions, allowing for the loading of significantly more datasets and increasing by at least 15% efficiency.

## TECHNICAL SKILLS

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- **Programming Languages:** Python, Java, JavaScript/TypeScript, C, C++, SQL, CSS/SCSS, Matlab.