Yuanlai (Miles) He

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EDUCATION

McMaster University   Sep. 2023 - Dec. 2024 (Expected)
M.Eng. in Systems and Technology, GPA: 4.00/4.00, Co-op (4-12 mos.)   Hamilton, ON, Canada

Beijing Jiaotong University   Sep. 2017 - Jun. 2021
B.Eng. in Computer Science and Technology, GPA: 3.22/4.00   Beijing, China

WORK EXPERIENCE

Changan Automobile   Aug. 2021 - Jul. 2023
Software Development Engineer | Full-time   Chongqing, China

- Developed a user-friendly **iOS interface** for the vehicle's self-parking feature using **Swift** and **UIKit**, adopting a **finite state machine** approach to enhance UI reliability, integrating **MQTT** protocols for **real-time control communication** and managing **RESTful API** interactions and data parsing with **Alamofire**, a robust HTTP networking library, while adhering to **MVC** principles for code maintainability.
- Refactored parts of a major iOS app, leading to a 10% reduction in code and 20% faster third-party library integration, by developing and managing **CocoaPod**, a dependency manager, aligned components on the company's private **GitLab**, significantly enhancing code reusability and maintainability.
- Streamlined iOS app **packaging** and **deployment** for testing and App Store release, adopting **TestFlight**, an Apple tool, for efficient beta testing and crash logging, **reducing the development cycle** by two steps and enhancing collaboration with backend and automotive teams with the responsibility for troubleshooting app bugs.
- Redeployed and maintained a **Python** and **Flask API-based FAQ** answering service, a frequently asked questions system, on the cloud for a major mobile app using **Docker** and troubleshooting Python dependency issues and bug fixes during the reorganization phase of the company.

RESEARCH EXPERIENCE

Dynamic Graph Convolutional Networks for Sleep Stage Classification   Sep. 2019 - Sep. 2020
Co-supervised by *Prof. Jing Wang and Dr. Ziyu Jia, Beijing Jiaotong University*   Beijing, China

- Focused on literature reviews, model parameter tuning, and creating model diagrams to visualize our model.

PROJECTS

LABonWEB   Jan. 2024 - Oct. 2024(expected)

- Anticipated to contribute to the development of *LABonWEB (Toronto, ON)* Accurate & Accessible STEM Learning Platform, focusing on enhancing web functionalities and user experience using **JavaScript**.

English-speaking practice iOS APP   Sep. 2023 - Dec. 2023

- Developed an English-speaking practice **iOS app** using **Swift** and **SwiftUI** at *ATECHNOVA (Hamilton, ON)*, integrating **Firebase** for **authentication** and data storage, and a **Siamese BiLSTM** deep learning model for text analysis, deployed on **AWS EC2**.

Moments-sharing Web Application   Dec. 2019

- Designed and developed a moments-sharing web application, employing **MySQL** for database management, **JavaServer Pages (JSP)** for dynamic content, and HTML/CSS for streamlined web design and styling.

Sudoku Mini-Game   Jun. 2019

- Collaborated on a Sudoku game project and developed a Sudoku-solving algorithm in C++.

SKILLS

- Programming Languages: Swift(2 yrs, UIKit/SwiftUI/CocoaPod), Python, Java, C/C++, JSP
- Tools and Technologies: Git, Linux (Ubuntu), Docker, MySQL, PyTorch, WordPress, MQTT, Flask, HTML/CSS

PUBLICATIONS

[1] Jia, Z., Lin, Y., Wang, J., Zhou, R., Ning, X., **He, Y.**, & Zhao, Y. (2020, July). GraphSleepNet: Adaptive Spatial-Temporal Graph Convolutional Networks for Sleep Stage Classification. In IJCAI.

[2] Jia, Z., Lin, Y., Wang, J., Ning, X., **He, Y.**, Zhou, R., et al. "Multi-view spatial-temporal graph convolutional networks with domain generalization for sleep stage classification." IEEE Transactions on Neural Systems and Rehabilitation Engineering 29 (2021): 1977-1986.