Hongle Che (Henry)

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Education

- **Northwestern University** — Evanston, IL
  Master of Science in Computer Engineering — *Sep. 2022 – Dec. 2023*
- **University Of Electronic Science And Technology Of China** — Chengdu, China
  Bachelor of Engineering in Communication Engineering, GPA : 3.6 — *Aug. 2018 – July. 2022*

Programming Skills

- **Proficient**: C++, Java, JavaScript, HTML, CSS, Spring, React, Git, MySQL
- **Familiar**: Python, Node.js, Vue.js, Thrift, Docker, Django

Experience

- **Develop Technology Company** — Zhengzhou, China
  Software Engineering Intern — *July 2021 - Sep 2021*
  - **RFP Processing System**: Designed and tested a RFP processing system with Python to help project managers process and extract keywords, decrease single process time from 5 minutes to under 1 minute using a Bert model trained with self-built dataset on TensorFlow
  - **Recommendation System**: Developed a DeepFM-based recommendation system with Python to assist marketing managers with scaling average RFP recall amount by 60% or more and increasing top-10 accuracy by 30% or more
  - **Back-end Deployment**: Worked on RESTful API implementation for RFP processing and storage with Java and MySQL, which improved the efficiency of marketing workflow by 30%

Projects

- **Online Bots Battle Platform**
  Full-stack project — *May 2022 - Sep 2022*
  - **Scalable Web Platform**: Designed and built an online bots battle platform using SpringBoot to support multi-user gaming and crafted a clean and functional user interface with React and Bootstrap
  - **Real-time Matchmaking and Gaming**: Achieved real-time user matching and gaming feature with WebSocket, which reduced the latency of user operation by 30% compared to AJAX
  - **User Authentication Service**: Secured user connection safety with JWT token authentication and developed request filtering and automatic authentication feature using Spring Security
  - **Independent Matching and Online Judge Services**: Built matching and online judge micro-services with Spring Cloud and utilized Docker to achieve bot script running feature, which augmented server capacity by 100% and doubled the number of user requests per second compared to the single service framework
- **Android-based Road Cracks Detection System**
  Individual project — *December 2021 - April 2022*
  - **Target Detection**: Realized cracks detection with attention optimized YOLO model and trained on 100,000 images by Pytorch, which resulted in 40 % AP accuracy. Transformed the model into Android adapted format utilizing NCNN framework
  - **Route Visualization**: Developed and tested cracks labeling and route recording features with Java and Google Map SDK, filtered out similar targets using variance filtering algorithm, which achieved 80% labeling accuracy
  - **Android Deployment**: Crafted a detailed user interface combining target detection and visualization views with Android Studio and enabled a 20 FPS detection rate on Android phones
- **C++ Web Server**
  Back-end project — *March 2021 - April 2021*
  - **High-Performance Server**: Developed and tested a light-weight and high-performance server with C++, achieved fast responses to continuous requests from 1000 clients using non-blocking protocols and thread pools
  - **HTTP Request Parsing**: Implemented HTTP request parsing and response using a finite state machine, guaranteed load balancing of worker threads with epoll events and request queue, which increased utilization of worker threads by 30% or more