HONGCHAO HU

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PROFESSIONAL SKILLS

Java (Advanced), **C++** (Advanced), **Python**(Advanced), **R** (Advanced), **HTML** (Intermediate), **CSS** (Intermediate), **MySQL** (Intermediate), **MongoDB** (Intermediate), **Node. Js** (Intermediate)

PROFESSIONAL EXPERIENCE

Mobalytics Intern – Remote 06/2023 - 08/2023
Data Analyst and **Web Developer**

- Used **Python** and **R** on data cleaning and data validation for Mobalytics to promote a robust performance analysis platform for video game players.
- Monitored and controlled data upload, import, and quality.
- Used **MySQL** to assist end-users in creating custom reports and actionable insights.
- Used **React** and experimental Web4 Decentralized model and data visualization tools to create and present real-time feedback for players.
- Analyzed problems and worked with teams to develop solutions

CTC (China Telecommunications Corporation) Intern – LongYan Fujian China 06/2020 - 08/2020
Network System Administrator Assistant

- Increased customer demand on cloud data center by boosting data processing efficiency by **35%** through designing and incorporating the use of neuro network （implemented with **PyTorch**)
- Collected, arranged, and analyzed server information in the terminal database system.
- Developed an adaptive database for small to medium online businesses using **Node.js** and **MongoDB**.
- Conducted extensive research for in total of 6 startup company projects.

EDUCATION

The University of California San Diego - San Diego, CA Expected in 06/2024
Bachelor of Science: **Mathematics And Computer Science**, Minor in **Business Economics**

- GPA: 3.16
- Relevant Coursework: Computer Graphics, Design & Analysis of Algorithm, Data Science in Practice
- Professional Development: Discrete Math & Graph Theory, Numerical/Linear Analysis

PROJECTS

Neural Network [Python, Linear, MySQL]

- Used Graph Algorithm and **PyTorch** to train, validate and improve a neural network model.
- Implemented advanced hyperparameter tuning techniques to optimize model performance, resulting in a 15% improvement in prediction accuracy over baseline models.
- Co-design a Database management system using **MySQL** to store and encode analyzed data efficiently.
- Collaborated with cross-functional teams to integrate the neural network into a larger system, ensuring seamless functionality and ongoing support to adapt to changing data trends and business requirements.

Data Encryption, Visualization [CryptoJS, React.js]

- Designed a data transmission system for schools and companies to present analysis in real-time safely.
- Utilized **CryptoJS** library to create a model for data encryption, improving data privacy and integrity for text-based communication.
- Created dynamic and interactive data visualizations embedded within the **React.js** front-end, enhancing user understanding and engagement with complex datasets.
- Integrated the system with various third-party APIs and databases, ensuring compatibility and seamless functionality while maintaining rigorous encryption standards.

Game Development [C, OpenGL, Python]

- Designed and Programmed a first-person shooter video game from scratch.
- Implemented game mechanics, enemy AI, and physics engine for smooth gameplay using **C and C++.**
- Boost the visual effect by using **OpenGL** for rendering.
- Combining the **data processing Neural Network** above to predict the in-game NPC module's interaction to improve the in-game optimization and player experience smoothness.