Xiaoxi Yang

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Education

Brown University **Sep. 2023 – May 2025**

Master of Science in Computer Science — GPA: 4.0 / 4.0 *Providence, RI*

- **Related Courses**: Distributed Systems, Database System Management, Software Security Exploitation, Designing Humanity Centered Technology

Kean University-Wenzhou **Sep. 2019 – May 2023**

BS in Computer Science & Minor in Mathematical Science — GPA: 3.95 / 4.0 (Ranking: 1/86) *Wenzhou, China*

- **Honors**: Zhejiang Province Outstanding Graduate Award **(Top 1%)**; Zhejiang Province Government Scholarship **(Top 1%)**; Three-time recipient of Dean's Scholarship for Research and Innovation **(Top 1%)**; Three-time recipient of Dean's Scholarship 1st Prize **(Top 2%)**.

Experience

China Unicom **June 2023 – Aug. 2023**

Software Development Intern *Beijing, China*

- Engaged in Digital Village Big Data Application Platform backend development, optimizing data queries and processing using **Java** and **Spring Boot**.
- Improved query performance by **15%** through database logic refactor and **MySQL** optimizations. Implemented **Redis** caching, enhancing user experience.
- Streamlined deployment with **Docker** and **Kubernetes**, and processed **1TB** of data daily using **Hadoop** and **Spark** for analytical support.

Projects

Bimodal Affective Computing Interface for AGI | *C++, Arduino, Hardware Integration* **Nov. 2023 - Feb. 2024**

- Engineered a bimodal affective computing interface using **Arduino Pro Micro**, integrated with **HX710b air pressure sensors** and **L293D motor driver ICs**, simulating machine affect through tactile feedback mechanisms.
- Developed dynamic feedback mechanisms, employing **Processing** for real-time CPU load monitoring to adaptively control **Inflatable Responsive Interfaces (IRIs)**, enhancing user experience with intuitive, empathetic interactions.
- Leveraged **3D printing** for prototyping and iterating the physical design of responsive interface components, achieving a system with an average FPS rate of 10.14638, demonstrating quick interaction capabilities and design optimization for user engagement.

Literacy Learning Software for Autism Children | *Vue.js, uniapp, Django, MySQL, Redis* **Feb. 2023 - June 2023**

- Incorporated front-end technologies: **MVVM architecture**, **uniapp framework**, **Vue.js**, and **ElementUI** for an interactive and user-friendly experience.
- Developed back-end solutions utilizing **Python** with the **Django** framework and managed data with **MySQL** and **Redis** for efficient operations and secure data management.
- Executed extensive user function module testing and backend load tests, achieving optimal efficiency with a 100% success rate over 25 minutes at an average request time of 387ms, demonstrating system reliability and performance.

Street Garbage Detection Software | *Django, JavaScript, SQL, MobX* **Sep. 2022 - Dec. 2022**

- Built the front end using the WeChat mini-program framework and developed the backend with **Django** and Baidu PaddlePaddle; employed the **ORM model of Python** for **MySQL** database communication and utilized **MobX** for state management.
- Implemented the **pp-PicoDet v2 algorithm** via PaddlePaddle to accurately identify trash points in video frames, optimizing the inference time to under one second per frame.
- Employed multiple security protocols, including a secure file-sharing solution, **HTTPS protocol** for data exchange, and **CSRF Token** middleware integration.
- Performed **White-box testing** to validate core functionality of all modules and managed deployment of the project to Alibaba Cloud ECS for production use.

Technical Skills

Languages: Java, Python, SQL, JavaScript, Go, C++, HTML/CSS, C, PHP, Kotlin, Assembly Language, Processing
Technologies/Frameworks: React.js, Vue.js, Spring Boot, Flask, MongoDB, Kubernetes, Git, Redis, JUnit, PyTorch, TensorFlow, Scikit-learn, Keras, Django, Apache Spark, OpenCV, LaTeX, Markdown
Tools & Platforms: Linux, Docker, GitHub, VS Code, PyCharm, IntelliJ IDEA, Eclipse, Google Colab, MATLAB, Google Cloud Platform, Onshape, Blender, PrusaSlicer