JUNZE ZHANG

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EDUCATION

University of Waterloo   **Sep 2023 - Dec 2024**
Master's, Computer Engineering   *GPA: 91.1*

Beijing Institute of Technology   **Sep 2019 - Jun 2023**
Bachelor's, Data Science   *GPA: 88.4*

PROFESSIONAL EXPERIENCE

Beijing Ligare Protocol Co.Ltd (Startup)   **Beijing, China**
Software Developer   *Apr 2023 - Aug 2023*
- Utilized Java and Spring Boot for back-end development, helping 100+ sellers with a shop management panel and supporting 10,000+ users through a factory direct shopping platform
- Developed a comprehensive REST API using OpenAPI Swagger for the server-side Spring Boot application
- Worked on software quality assurance and troubleshooting, fixing 10+ production software defects in production, and automated deployment with Alibaba Cloud CI/CD pipeline
- Enhanced data scalability by designing MySQL and Redis NoSQL databases on distributed cloud storage, powering new user and business-oriented features
- Collaborated and communicated with 3rd parties on requirement engineering according to growing market needs

University of Cambridge   **Remote**
Research Assistant   *Jul 2022 - Sep 2022*
- Developed a BERT-based Computer Vision/NLP multimodal neural network to detect hate speeches in internet meme pictures with texts
- Developed a web application with Flask to use the model; included OCR to extract text from meme pictures
- Optimized the multimodal network architecture and achieved an AUROC score of 0.81, a 4.5% improvement over the state-of-the-art

PROJECTS & OUTSIDE EXPERIENCE

InsightLabel
An AI-boosted Image Annotation Tool
- Developed an image annotation application using Django, OpenAPI, and Next.js, featuring a user-friendly interface and extensive shortcut key options that enhanced labeling efficiency by 2x
- Utilized a Mask R-CNN to provide automated annotation for images, saving human labor by 80-95%
- Deployed cloud-based computing, database, and storage on AWS
- Levaraged communication skills in a collaborative Agile environment with weekly meetups, and tracked development and bugs through issue boards

MKBQA
Medical Knowledge Graph Based Question Answering
- Built a medical knowledge graph with 7000+ diseases using Neo4j Graph Database
- Utilized a BERT-based NLP model to classify user intent
- Developed a chatbot interface using Flask with data retrieved from knowledge graphs

ConnectQ
Highly Customizable Group Chat Instant Messaging
- Used C++ Socket programming to develope the back-end of a group-chat Instant Messaging application, enabling high-performance, low-latency messaging services
- Used Qt to develop the front-end user interface of the Instant Messaging application with high variety of customization options
- Created optimized MySQL tables for online chat data and account management, enabling <10ms data retrieval latency

SKILLS

- **Languages:** Python, Java, JavaScript, TypeScript, C/C++, C#, HTML/CSS, SQL
- **Database:** MySQL, MongoDB, Redis, SQL Server, Neo4j
- **Cloud Computing:** AWS(S3, EC2, ECS, RDS, SES), Alibaba Cloud
- **Machine Learning / Deep Learning:** Tensorflow, Pytorch, Keras, OpenAI, LLM
- **Web Development:** Spring Boot, Django, Flask, Node.js, React, Vue.js
- **Tools:** Git, Maven, NPM, Docker