Jiaqi(Charles) Shang

4A Honours Computer Science and Honours Statistics

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Summary of Qualifications

▶ Proficiency in Python, C++, SQL and Bash, gained from the previous projects during internships.

▶ Solid leadership skills and problem-solving skills, enhanced through school council and project management experience.

▶ Strong communication and management skills, developed through volunteer and cross-team collaborations.

▶ Fast learner and highly self-motivated with a strong ability to work independently and to take ownership of tasks and goals.

Experience

Aterlo Networks - Full Stack Developer   May. 2023 - Dec. 2023

▶ Collaborating with a 5-person team, developed high quality micro-services that communicate with 10M+ in-field devices worldwide, including routers and access points for fixed wireless support, and OLTs and ONTs for fiber support. Initiated to create tools to visualize the relationships between some internal API messages.

▶ Engaging with the front-end team to design and develop 10+ user interface components, elevating the user experience.

Tesla - Data Engineering Intern   Mar. 2022 - Aug. 2022

▶ Designed a headcount tracking web application for a recruiting team of over 30 members, incorporated automation features such as data visualization and report generation, resulting in a remarkable 90% improvement in recruiters' data handling efficiency.

▶ Conducted communications across 3 departments to expand capability of the headcount tracking product, organized informative sessions to introduce new features, advancing time management and public speaking skills.

iFlytek - Machine Learning Engineering Intern   Sept. 2021 - Dec. 2021

▶ Developed a paraphrase service in the Human-Computer Dialogue team. Researched about 15+ state-of-art scholars in the NLP field to enhance semantic similarity performance; reinforced the understanding of deep learning from presentations and seminars.

Projects

Network Solutions and Micro Services | Python, gRPC, Kubernetes, Protobuf - Teamwork, Innovation   May. 2023 - Dec. 2023

▶ Maintained and developed the network polling infrastructure, incorporated with 50k+ network communication messages.

▶ Utilized management protocols such as SNMP to extract inventory and performance data from 10k+ network devices such as routers, radios and OLTs. Researched about 25+ manufactures and developed network relationships between devices.

Headcount Tracking Portal | Django, Python, SQL, JS, CSS - Project Management, Interpersonal skills   Mar. 2022 - Aug. 2022

▶ Allowed recruiters to automate data processing pipelines with over 17 features including data insertion and alert detection, established authentication and permission system to facilitate permission distribution and data restriction.

▶ Supported customized functionalities that enhanced data manipulation by interactive data dashboard and 5+ visualizations.

▶ Integrated administrative management system for managing headcount tracking application, ensured a 0-code-required administrative system for future maintainability by non-technical individuals.

General Knowledge Chinese Paraphrase | Python, Bash - NLP, Data Analysis, Self-motivation   Sept. 2021 - Dec. 2021

▶ Implemented 7 paraphrase methods (including synonym replacement, parallel exchange, and functional word edition). Applied word level and sentence level similarity determinations, explored and applied models such as BERT, and SimCSE to improve semantic similarity performance; experimented with generative models with back-translation corpus to clean and standardize 1M+ data.

▶ Experimented with combinations of paraphrasing methods, and successfully maximized the number of changes from the original sentences and ensured the fluency of sentences, resulted in a 95.8% paraphrase semantic precision rate with a recall rate of 99.2%.

Education

University of Waterloo | Undergraduate Honours Computer Science and Statistics (Co-op)   Sept. 2020 - Apr. 2025 (Expected)

▶ GPA: 91.29%, obtained Academic Excellent Standing and Term Distinction for all terms.

▶ Relevant Coursework: Algorithms and Data Structure, Operating System, User Interface, Introduction to Artificial Intelligence.

Awards and Scholarships

▶ University of Waterloo CS International Student Upper-Year Scholarship   2022
▶ University of Waterloo Research Scholarship   2021
▶ University of Waterloo President's Scholarship of Distinction   2021