Keyou Liu

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SUMMARY OF QUALIFICATIONS

Master of Engineering graduate in Electrical and Computer Engineering from the University of Ottawa (GPA: 9.22/10), with a Bachelor's degree in Information Security from BUPT (GPA: 82/100), and over 4 years of experience at China Unicom in back-end automation, full-stack development, broadband access network operations and maintenance.

EDUCATION

University of Ottawa, ON   09/2023 - 03/2025
*Master of Engineering, Electrical and Computer Engineering, **Cumulative GPA: 9.22 / 10.0***

Beijing University of Posts and Telecommunications, Beijing, China   09/2015 - 06/2019
*Bachelor of Engineering, Information Security, **GPA: 82/100***
- Academic Awards and Honors: University Scholarship (2016, 2017, 2018)

RELEVANT SKILLS

- **Languages**: Python, C++, Java, C#, JavaScript, SQL, HTML/CSS, MATLAB
- **Framework**s: Django, React.js, Node.js, React Native, Selenium
- **Databases**: MySQL, MongoDB, SQL Server
- **Tools & DevOps**: Git, Docker, Linux, RESTful APIs
- **Telecom & Diagnostic**s: OLT, BRAS (ME60/7750SR), GPON/EPON, Wireshark, SNMP, tcpdump, logs

RELEVANT WORK EXPERIENCE

China Unicom Network Telecommunications Corporation Limited   08/2019-09/2023
Broadband Access Network Operation Support
- Led life-cycle management of OLT and BRAS devices, ensuring stable GPON/EPON access for users in Beijing
- Conducted compatibility testing of home routers and optical terminals under high-concurrency conditions
- Developed automation tools using Python, C++ and Selenium to streamline the configuration and management of OLT and BRAS devices, reducing manual setup time from 30 minutes to 10 minutes and lowering error rates
- Created back end utilities for configuration backup, rollback, and policy deployment using C++ and Python
- Used Linux-based scripts (bash, tcpdump, traceroute, log parsers) to automate diagnostics and fault detection
- Maintained internal configuration dashboards and monitoring tools using HTML, JavaScript, and CSS
- Collaborated across technical and service teams to resolve device issues like drops and ONU connectivity issues
- Ranked top in internal AI programming contests (2020 & 2021) with Python-based projects

APPLIED PROJECTS

Clinical Trial Component of e-Hospital | *React.js, Node.js, MySQL, MongoDB, Git*   06/2024-09/2024
- Built a full-stack clinical trial module from scratch, handling requirements analysis, system design, and coding
- Designed and maintained relational and NoSQL schemas; used Git for version control throughout the life-cycle

Single Image Haze Removal Using Dark Channel Prior | *Python, MATLAB, Image Processing*   03/2024-06/2024
- Reproduced classic image dehazing algorithm to enhance visibility in hazy images using Python and OpenCV
- Implemented model from research paper and verified output quality against real-world samples

OLT Automatic Network Entry tools| *Python, Selenium, MongoDB, OLT, BARS*   03/2020-07/2020
- Developed automation programs to replace manual configuration reviews of BRAS and OLT devices using Python
- Significantly improving efficiency and reducing review time from 30 minutes to 10 minutes
- Used Selenium for interface simulation and MongoDB to store and track configuration states

Beijing 2022 Winter Olympics Wi-Fi Deployment | *Wi-Fi System, Network Operation, Routers*   10/2021-02/2022
- Supported the end-to-end Wi-Fi design and deployment across Olympic venues
- Delivered 24/7 real-time technical support during the Games to guarantee uninterrupted user connectivity