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 Sep 2023 - Jan 2025
Master of Engineering, Electrical and Computer Engineering, ***Cumulative GPA: 9.22 / 10.0***

Beijing University of Posts and Telecommunications, Beijing, China Sep 2015 - Jun 2019
Bachelor of Engineering, Information Security, ***GPA: 82/100***

- Academic Awards and Honors: University Scholarship(2016, 2017&2018)

RELEVANT SKILLS

- **Languages:** Python, C++, C#, Java, JavaScript, SQL, HTML, CSS, MATLAB
- **Frameworks:** React.js, Node.js, Django, React Native, Selenium, jQuery
- **Databases:** MySQL, MongoDB, SQL Server
- **Telecom Systems:** OLT, BRAS (Cisco ME60, Bell 7750SR), GPON/EPON, ONU, NAT, PPPoE/IPoE
- **Diagnostics Tools:** Wireshark, tcpdump, traceroute, SNMP, ping, log monitoring, session tracking
- **Tools & DevOps:** Git, Docker, Linux, RESTful APIs

RELEVANT WORK EXPERIENCE

China Unicom Network Telecommunications Corporation Limited 08/2019-09/2023
Broadband Access Network Operation Support

- Managed OLT devices (e.g., Huawei MA5800 series) life-cycle, ensuring stable GPON/EPON access for Beijing
- Managed BRAS device clusters (e.g., Cisco ME60, Bell 7750SR), handling tasks like PPPoE/IPoE authentication
- Resolving OLT and BRAS cross-device issues (e.g., ONU online abnormalities, BRAS user session loss)
- Conducted comprehensive compatibility testing and analysis of home routers and optical modems like TP-Link
- Experienced in using Linux scripts for routine diagnostics (e.g., ping, traceroute, tcpdump, log analysis)
- Developed automation tools using Python 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 internal software using C++ and Python for device configuration backup, recovery, and policy deployment; maintained version control with Git.
- Maintained internal websites using HTML, JavaScript, and CSS for configuration and documentation purposes.
- Participated in internal AI programming competitions using Python (2020 & 2021), achieving top rankings.

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, covering requirements analysis, system design, and coding
- Designed and maintained database schemas in MySQL and MongoDB; using Git for version control

Single Image Haze Removal Using Dark Channel Prior | *Python, MATLAB, Image Processing* 03/2024-06/2024

- Reproduces the superb algorithm in the paper of the same name to enhance visibility in hazy images using Python

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

Beijing 2022 Winter Olympics Wi-Fi Deployment | *Wi-Fi System, Network Operation, Routers* 10/2021-02/2022

- Participated in the design and deployment of wifi systems for all venues
- Provided 24/7 real-time support during the Games, ensuring uninterrupted Wi-Fi service