**Roy Y. Zeng**

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## Education

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| **Carnegie Mellon University** | **Aug 2022 - Dec 2023 (Expected)** |

M.S. Information Technology, Privacy Engineering. (GPA 3.86/4.00)

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| **Dalian University of Technology** | **Sep 2018 - Jun 2022** |

B.E. in Cyber Engineering - Cyber Security (GPA 3.98/4.00)

## Skills

- **Language:** Python, Java, C++, Swift, TypeScript, JavaScript, HTML, CSS, Shell
- **Framework:** Django, ReactJS, Vue.js, Node.js, QT, Pandas, NumPy
- **Tools and Database:** Wireshark, Docker, Gitlab, MySQL, MongoDB, Redis, Postman, Burp Suite.

## Experience

**Alstom - Software Engineer Intern**                                        **May 2023 - Aug 2023**

**Technology:** Python, QT, Socket, Gitlab, Gerrit, Pickle, SQLite

- Designed and implemented Configuration File Generation Tool for vehicle engineers to generate vehicle configuration files based on Map files and to analyze and manipulate generated files.
- Developed an end-to-end desktop application with business logic for Map File data integration, user facing edit, visualization, and analysis operations, as well as logging and data validation features.
- Proposed and developed improved Save & Load functionality to eliminate data loss and mitigate user mistakes, improved user productivity by 20% from 30 min average to 25 min.
- Proposed and developed a innovative Communication Simulator Interface to simulate Vehicle-to-Vehicle Facility communication to facilitate and automate testing and deployment.
- Successfully delivered and launched the end-to-end product to 400+ users across two organizations.

**Tencent Technology - Software Engineer Intern**                          **July 2021 - August 2021**

**Technology:** Python, Django, MySQL, Redis, Vue.js, Tencent Cloud, Webpack, DevOps, pyecharts

- Developed a Network Resource Management Platform in collaboration with DevOps Team to support resource visualization, data analysis, and access management for Tencent Cloud Platform resources.
- Designed and implemented a RESTful web service with 30+ endpoints for business logic across the platform, including analytics queries, batch analytics, dashboarding and access requests.
- Designed a modularized UX component library with Webpack to improved the reusability across application.
- Developed a resource interface on the admin platform. Designed and implement a data integration and serialization layer to decouple database integration, and improve data validation coverage.
- Developed a Redis based message broker to decouple and improve the periodic data sync requirements.
- Optimized query engine efficiency to improve customized and timed queries latency by an average of 40% across all use cases and up to 90% in hot spots.
- Developed a novel visualization component using pyecharts to visualize access, usage, and occupancy.
- Planned and executed overall testing and deployment pipeline of the project. Executed launch activities.
- Successfully launched the project for Tencent Games DevOps and achieved a 20% productivity gain.

**Neusoft - Backend Engineer Intern**                                        **July 2019 - August 2019**

- Developed a Parking Management System with a payment processing function for 100+ users in C++
- Developed database integration, payment gateway integration, desktop data sync functionality.

## Projects

**Secure Real-time Online Communication Engine, Security Course Project**          **Feb 2021 - Jul 2021**

- Designed real-time communication engine which supports encrypted network communication.
- Developed support for both a peer-to-peer and a client-and-server communication model.
- Developed security scheme by leveraging RC4, RSA, and MD5 encryption for the messages.