

# Khaliun Munkhuu

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## EDUCATION

**Duke University**, Pratt School of Engineering Durham, NC  
*Master of Engineering, Electrical and Computer Engineering, Software Development Track.* Aug 2022 - May 2024  
Courses: Software Engineering, Server Software, Systems Programming, Parallelism, Networks, Security (TA), Algorithms

**New York University**, College of Arts and Science New York, NY  
*Bachelor of Arts, Economics, minor in Business Studies* Jan 2017 - May 2019

## SKILLS & CERTIFICATIONS

**Languages:** Java, C/C++, Python, SQL

**Others:** CI/CD, Git, Bash, Unit Testing, Linux, Docker, SQL databases, OOP, Parallelism, RESTful APIs

**Certifications:** AWS Cloud Practitioner (CP)

## WORK EXPERIENCE

**Forewarned, Inc.** Durham, NC  
*Software Engineer Intern* Jun 2023 - Aug 2023

- Developed expertise in Python honeypot library and independently built SMB, HTTP, POP3, IMAP protocol honeypots.
- Built client-side scripts to test honeypots, ensuring accurate simulation of authentication attempts and custom interactions.
- Authored detailed documentations and recognized as top performer, receiving offer to continue interning.

**Haymarket Media, Inc.** New York, NY  
*Business Analyst* Nov 2019 - Dec 2021

- Identified billing process improvements and implemented process change by directly collaborating with the largest client, eliminating \$1M/FY billing discrepancies and achieved 50% reduction in discrepancies across all clients.
- Reduced time spent on aggregating daily delivery data by ~70% through automation, increasing data reliability.
- Forecasted campaign delivery, in-month revenue, and ad marketing expenses on weekly basis with >95% accuracy.

## PROJECTS

**Academy Management System (Java, JavaFX, Gradle, JUnit, TCP/IP, OOP, MySQL, Docker, CI/CD)** Mar 2024 - Apr 2024

- Designed and built networking and controller and view layers of the MVC architecture, correctly processing app logic for requests.
- Implemented robust data validation and error handling within the controller layer, improving input data integrity and security.
- Employed event-driven programming with JavaFX to create user-friendly interfaces, enhancing overall user experience.
- Achieved 90%+ test coverage through meticulous testing and debugging using JUnit, Mockito, and TestFX.

**Networked Battleship Strategy Game (Java, Gradle, JUnit, TCP/IP, OOP)** Jan 2024 - Feb 2024

- Developed battleship game with 30+ classes and interfaces, adhering to the SOLID design principles and clean code standards.
- Performed exhaustive and comprehensive testing with JUnit, achieving 100% test coverage.
- Implemented advanced networking feature, enabling users to connect over the internet and play against other users.

**Book Buddy Web Server (Python, Flask, Azure, Terraform, Docker, CI/CD, ETL)** Nov 2023 - Dec 2023

- Directed the end-to-end development lifecycle of a full-stack web app, seamlessly integrating a suite of tools and technologies.
- Employed CI/CD pipelines to automate testing and deployment processes, enhancing development efficiency and code quality.

**Order Delivery System (Python, Docker, Django, PostgreSQL, Protobuf, TCP/IP, OOP)** Apr 2023 - May 2023

- Developed back-end application modeling UPS to process concurrent delivery requests over TCP from online shop partner.
- Ensured 100% message processing with exactly once delivery despite packet losses via deduplication and at-least-once delivery.

**HTTP Caching Proxy Server (C++, Docker, Parallelism, TCP/IP, OOP)** Feb 2023 - Feb 2023

- Built HTTP caching proxy that handles concurrent GET, POST, CONNECT requests over TCP using threads & locks.
- Applied RAII technique on classes and employed structured exception handling, achieving strong exception safety guarantee.
- Improved efficiency by caching HTTP responses in accordance with the validation & expiration rules specified in RFC 7234.

**Thread-safe Memory Allocator (C, Parallelism)** Jan 2023 - Feb 2023

- Built First Fit and Best Fit memory allocation & free methods from scratch and evaluated trade-offs between strategies.
- Ensured thread-safety by implementing locking version (Pthread library) and lock-free version (Thread-local storage).