

# Hwangbo Gyumin

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## Introduction

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- Github : <https://github.com/ghkdqhrbals>
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- LinkedIn : <https://www.linkedin.com/in/gyumin-hwangbo-92382218b/>

## Education

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- Pusan National University
  - 2020.09 ~ 2022.08
  - MS in Computer Science
- Pusan National University
  - 2014.03 ~ 2020.08
  - BS in Computer Science

## Experience

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- [DB snapshot](#)(co., ltd. Pulse) 2020.01 ~ 2020.02
  - Python, Selenium

## Skills

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- **Front-end**
  - HTML, CSS : Developed current portfolio homepage and [aws-homepage](#)
- **Back-end**
  - Java(Spring) : Efficiency improvement experience through asynchronous multi-threading in chat server project
  - Spring-Cloud/Security : Configuration file distribution experience through Config server in chat server project. Also, experience handling JWT token authentication/authorization processing based on Reactor
  - Kafka : Experience of using MSA backbone network in chat server project
  - Golang(Gin) : Efficiency improvement experience through asynchronous multi-threading in banking server project/HTTP benchmark project
  - Docker/Shell-script : Experience in automating the parts necessary for server execution in chatting server/banking server/HTTP benchmark projects
  - Kubernetes/AWS/Git-Actions : Experience implementing CI/CD in a banking server project
- **Others**
  - Linux : Lots of coding experience in Linux environment
  - Git : Source versioning
  - Security
    - Discovering Ethereum blockchain network vulnerabilities and attack : As 1st author publishing [Network Security Vulnerability Master Thesis](#)
    - Attack detection and pattern extraction : [Powershell Malicious Script Detection](#), [Windows malware pattern extraction](#)

## Main Project

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- [live chat server](#)(100% Contribution)
  - Skills : Java/Spring, Spring-Cloud/WebFlux/Security/Gateway/Data-Jpa, AWS, Stomp, Docker, Kafka, Postgresql, Redis, ELK stack
  - Duration : 2022.10 ~ present
  - Member : 1 person
  - Github : <https://github.com/ghkdqhrbals/spring-chatting-server>
  - Description
    - A server capable of real-time chatting between users
    - Authentication API is serviced with MSA Saga-Orchestration
    - Focus on [performance optimization](#)

## Personal Project(100% Contribution)

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- **Automated banking server deployment**

- Skills : Golang, Gin, Async Multi-threading, Docker/Kubernetes, AWS-Route-53/ECR/EKS/Secrets/IAM, Git-Actions
- Duration : 2022.06 ~ 2022.09
- Github : <https://github.com/ghkdqhrbals/golang-backend-master>
- Description
  - Building CI/CD with a backend server that providing banking API

- **GotyBench**

- Skills : Golang, Async Multi-threading, Create a graph of traffic delay
- Duration : 2023.01 ~ 2023.02
- Github : <https://github.com/ghkdqhrbals/gotybench>
- Description
  - HTTP Benchmark Tool
  - Capable of testing over 1000 concurrent API transfers

- **Web portfolio**

- Skills : React, HTML, CSS, AWS, NGINX, Docker
- Duration : 2022.08 ~ 2022.09
- Github : <https://github.com/ghkdqhrbals/portfolio>
- Description
  - Portfolio website built with React
  - Using a static IP with AWS-Route-53/EC2

- **DB snapshot**

- Skills : Python, Pyqt5, crawling
- Duration : 2020.01 ~ 2020.02
- Description
  - Snapshot DB to retrieve desired information and extract CSV by table

## Other Project

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- **Find Pattern of Window malware**(50% Contribution)

- Skills : Python, N-gram, TF-IDF
- Duration : 2021.09 ~ 2021.12
- Members : 5 people(me as team-member)
- My role
  - Analyze windows malware data(Contribution 20%)
  - Extract pattern of window malware based on N-gram model(Contribution 100%)
- Description
  - Find window malware patterns and check accuracy during national research project

- **Powershell Malicious Script Detection**(Contribution 80%)

- Skills
  - Developed binary classification(Normal/Abnormal) model with Python, TF-IDF, LSTM
  - De-obfuscated with PowerDecoder, Revoke Expression
- Duration : 2021.09 ~ 2021.12
- Members : 3 people(me as team-leader)
- My role
  - Analyzed fileless malware data(Contribution 60%)
  - Summarized fileless malware detection thesis(Contribution 100%)
  - Developed fileless malware detection model(Contribution 100%)
- Github : [https://github.com/ghkdqhrbals/Malware\\_LSTM](https://github.com/ghkdqhrbals/Malware_LSTM)
- Description
  - Detect in-memory injection malicious scripts by ensembling LSTM and frequency models

- **What's your recommended restaurant?**(Contribution 10%)

- Skills : Java, crawling
- Duration : 2019.04 ~ 2019.05
- Members : 8 people(me as team-member)

- My role
  - Developed an algorithm to crawl restaurants on the kakao map(Contribution 100%)
- Github : <https://github.com/pnu-005-team1/projectTeam1>
- Description
  - Nearby restaurant recommendation application made with the Android term project
  - Crawls restaurants on the Kakao map and recommends restaurants by number of stars and category/region
- **[taxi driving simulator](#)**(Contribution 60%)
  - Skills : Python, Pyqt5
  - Duration : 2020.02 ~ 2020.06
  - Members : 3 people(me as team-leader)
  - My role
    - Developed UI/UX(Contribution 80%)
    - Developed path search algorithm(Contribution 100%)
  - Github : <https://github.com/ghkdqhrbals/GraduateProject>
  - Presentation : <https://ghkdqhrbals.github.io/portfolios/assets/img/terms/주행시뮬레이터.pdf>
  - Description
    - A simulator for analyzing the optimal number of taxis according to the population when taxis can ride together
- **[Blockchain-based eco-friendly energy trading platform prototype](#)**(Contribution 50%)
  - Skills : Python, Consensus Algorithm
  - Duration : 2021.03 ~ 2021.06
  - Members : 2 people
  - My role
    - Developed new consensus algorithm(Contribution 40%)
    - Developed prototype(Contribution 80%)
  - Github : <https://github.com/ghkdqhrbals/blockchain-with-python>
  - Description
    - A program to trade energy based on the blockchain

## Paper

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- **[Ethereum Eclipse Attack Master Thesis](#)**(Contribution 100%)
  - Skills : Ethereum Blocking, Golang, DDoS/Eclipse Attack, Kademlia DHT, Node Discovery Protocol, Multi-core
  - Duration : 2020.09 ~ 2022.08
  - Members : 2 people(1st author)
  - My role
    - Analyze Ethereum client in code level
    - Discovering Ethereum vulnerabilities
    - Developed Eclipse attack on Ethereum
    - Experiments on Proposed eclipse attack
  - Paper : <https://scienceon.kisti.re.kr/srch/selectPORSrchArticleOrgnl.do?cn=DIK00016457502>
  - Paper intro(English) : <https://sites.google.com/view/master-thesis-hwangbogyumin/>
  - Description
    - Attacks of a new mechanism that isolates Ethereum clients by DDoSing them
    - As a result, isolated Ethereum clients cannot mine their ETH
- **[Ethereum Eclipse Analysis Thesis](#)**(Contribution 100%)
  - Skills : Ethereum Blocking, Eclipse attack, P2P Protocol
  - Duration : 2020.09 ~ 2020.12
  - Members : 3 people(1st author)
  - My role
    - Summarize Ethereum Eclipse attack papers
  - Description
    - Analysis of papers on Eclipse attacks on Ethereum clients and organized by client version

## Activity

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- Patent

- Blockchain client vulnerability detection method and vulnerability detection device(2022.01 ~ 2022.12)
- Conference
  - [Analysis of major types of Windows malware families based on N-grams and threat behavior](#)(2021.12)
- SW registration
  - Prototype of a blockchain-based REC (Renewable Energy Supply Certificate) trading platform for the realization of RE100 [C-2021-044149](#)(2021.09 ~ 2021.11)
- Competition
  - Hackathon : Convergence Security Graduate School Hackathon Competition (2021.09 ~ 2021.11)
  - AI Competition(4th prize) : 2021 Cybersecurity AI/big data challenge, Korea Internet & Security Agency(KISA) - Fileless Malware Detection Division(2021.09 ~ 2021.12)
  - Privacy Contest(3rd prize) : 2020 K-cyber security challenge, Korea Internet & Security Agency(KISA) - Personal Information Protection Division(2020.09 ~ 2020.12)
- SW Overseas Education
  - San Jose State Univ. 1 Washinton Square, CA, USA (2019.06 ~ 2019.09)
- Exchange Student
  - HELP Univ. Bukit Damansara 50490 Kuala Lumpur, Malaysia (2017.12 ~ 2018.03)