

JUNHAO ZHU

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EDUCATION

Bachelor's Degree in Computer Science 2021,3 - 2025,2
Yonsei University, South Korea GPA: 3.68/4.3, 94.1%
Total Scholarship Awarded 15,016,000 KRW
Merit-based each year (Million Korean Won): 2021-3.07M, 2022-4.66M, 2023-5.44M, 2024-1.55M

INTERESTED FIELD OF STUDY

Distributed Systems	Parallelism, Fault Tolerance, Synchronization, Cloud Computing, Block Chain Distributed FileSystem/Database/MachineLearning, Big Data, Container Orchestration
Computer Network	Software-Defined Network, Internet of Things, Network Protocols, Routing Algorithms
Software Engineering	Design Patterns, Quality Assurance, Maintenance, CI/CD, Formal Verification

LANGUAGE SKILL

IELTS Listening/Speaking/Reading/Writing: 7.5/6.5/7.0/6.5 (overall 7.0)

EXTRACURRICULAR KNOWLEDGE/SKILL

 Familiar  Basic  Limited  Roughly understand

Distributed System	Map Reduce, Raft, Zookeeper, RPC, Transaction, Fork Consistency, Ethereum
Rust Ecosystem	Tokio, Rayon, Serde, Axum, Iced, Clap, Tonic (gRPC), Diesel, etc.
Java Ecosystem	Spring Boot (Web tech-stack), Mybatis, Spring Data JPA, Spring Security, Spring cloud, etc.
Cloud Native	Docker, Kubernetes
Cloud Operation	Bash/Fish Script, Tmux, AWS CLI, EC2, S3, S3, Route53, EKS, etc.
Middlewares	Kafka, ZeroMQ, Nginx, Redis, Flink
Editing	LaTeX, NeoVim
Other Languages	Go, C/C++, SQL, Solidity

SIDE PROJECTS (clickable links colored in BLUE)

jchat (2 years ago)	An end-to-end encrypted chat server and client with customized protocol codec, logging, and key-exchange. Written before taking security course thus far from perfect.
jhplot (2 years ago)	GUI wrapper for plotting coordinated graphs
jhremote , jhscripts	Bash/Fish scripts to automate tools like AWS CLI , ffmpeg , whisper , latexmk .
jhdns , jhautomata	Implementation of concepts from coursework
nvim , jhconfig	My personal configurations
others	Some AI wrapper projects and Web projects in private repository.

EXTRACURRICULAR STUDY

k8s-the-hard-way-aws	Manually setting up etcd, containerd, kubernetes control plane, and worker nodes on AWS EC2 cluster with customized VPC
MIT 6.824	Distributed systems open course series provided by MIT
KodeKloud (ongoing)	A reputable online education platform famous for its CKA certificate courses
udemy (ongoing)	I have subscribed to their Apache Flink course

INTERNSHIPS

[Yonsei ELC Lab](#) Topic: Stream Processing Engines (continuation of 4-month Capstone Project) 2024/1 - 2024/3
Professor: Bernd Burgstaller ([ORCID](#)) Supervisor: Dr. Shinyung Yang ([ORCID](#))

- initiate an incomplete survey, consulted several papers, namely [Hazelcast Jet](#), [SABER](#), [BriskStream](#), [StreamBox](#), [Benchmarking Streaming Computation Engines](#), [Analyzing Efficient Stream Processing on Modern Hardware](#)
- contributed to a hybrid Java/C++ codebase for the paper [Cloud Profiler](#) as well as another benchmark repository. In specific, I parallelized the data deserializer, visualized progress, adjusted operator fusion, wrote bash scripts for automation, migrated versions and addressed breaking changes, assisted my supervisor with debugging barrier server.

[Yonsei ELC Lab](#) Topic: Block Chain Testing (Ongoing, may result in a publication) 2024/9 - Ongoing
Professor: Bernd Burgstaller ([ORCID](#))

- working on codebase adjacent to the paper [An Off-The-Chain Execution Environment for Scalable Testing and Profiling of Smart Contracts](#), our project aims to verify the correctness of ethereum bytecode decompiler
- Migrated a customized interpreter for executing decompiled EVM bytecode (provided by Dedaub) to a higher version of the Geth client.
- Diagnosed validation failures in decompiled bytecode by analyzing source code across multiple languages, including Solidity (smart contracts), decompiled EVM bytecode, and Go (interpreter), to identify root causes such as decompiler inaccuracies or implementation issues.