



Julian Chandra Sutadi

✉ 13522080@std.stei.itb.ac.id  julianchandras.github.io **in** julianchandras  julianchandras


Research Interest

My current work focuses on lightweight distributed system verification to improve the dependability of cloud systems. More broadly, I am interested in computer systems, with a growing interest on the intersection of operating systems and networks, and on applying formal methods to real-world systems.

Education

Bandung Institute of Technology, Indonesia itb.ac.id 2022 – 2026 (Expected)

B.Sc. in Informatics (Computer Science)


#1 Engineering School in Indonesia [QS WUR 2025] 

- **CGPA:** 3.87/4.00 (Major GPA: 3.83/4.00)
- **Coursework:** Parallel and Distributed Systems (A), Computer Network (A), Operating System (AB)

Research Experience

Research on LLM-Aided Distributed Systems Verification Sep 2024 – Present

LiftLab, University of Virginia (Remote)

- Collaborating with **Prof. Chang Lou** on preventing regression failures in cloud systems by extracting and enforcing low-level semantics from historical failures.
- Reproduced and performed root-cause analysis of 5 complex semantic violation bugs in Apache ZooKeeper.
- Surveyed 100+ issue reports across distributed systems (ZooKeeper, HDFS, HBase) to classify regression patterns and identify recurrent semantic violations.
- Developed a compilation-aware script to extract historical failure contexts for LLM semantic inference, automatically filtering out unbuildable fix versions to ensure reproducibility.
- Enabled concolic execution by implementing Soot-based bytecode instrumentation for runtime tracing and developing a coverage-driven test selector to dynamically retrieve input tests for target execution paths.
- Initial findings have been accepted for publication at [HotNets '25](#)  (acknowledged for contribution).

System and AI Research Training Program

Jan 2025 – Jun 2025

University of Chicago (Remote)

- Selected **among 50 top Computer Science student researchers in Indonesia** for an international research training program instructed by **Prof. Haryadi Gunawi** (University of Chicago).
- Received training in research management, academic writing, and engagement with top-tier CS research communities and venues.
- Pre-PhD support funded by the Indonesian **Ministry of Higher Education, Science, and Technology**.

Work Experience

Software Engineer Intern

Jul 2024 – Aug 2024

Wardaya College

- Refactored the company's internal dashboard to improve maintainability and UI consistency.
- Led the backend development and the deployment of a diary web application for the education agency division, enabling education counselors to track students and manage their university applications.
- Tech stack: Next.js, Tailwind CSS, Ant Design, Go, PostgreSQL, Docker, AWS

Practicum Assistant for Introduction to Computing

Sep 2023 – Dec 2023

Bandung Institute of Technology

- Supervised and evaluated 5 Introduction to Computing practicum sessions for 75 first-year Mechanical and Aerospace Engineering students, with a focus on programming and data analysis in Python.

Highlighted Projects

Simple OS

[github repository](#) 

- Developed an x86 32-bit OS kernel from scratch in C, implementing basic kernel functionalities including interrupt handling, virtual memory management (paging), and multitasking.
- Integrated a FAT32 filesystem and developed user-space applications, including a command-line shell (with file commands) and a real-time clock, which can run concurrently on the custom kernel via QEMU.

Distributed KV-Store

[github repository](#) 

- Developed a distributed key-value store in Go implementing the Raft consensus protocol, including key components such as leader election, log replication, heartbeat, and membership changes.
- Tested on a multi-node Docker setup supporting client operations (get, set, del, append, etc.) with automatic leader redirection and majority-based commit acknowledgment.

Leadership & Activities

Catholic Student Association (KMK) ITB

Apr 2022 – Jun 2025

Head (2024 – 2025)

- Supervised all organizational activities with 80+ committee members across 12 divisions.
- Coordinated external relationships with the diocesan office, alumni, and faculty stakeholders to obtain institutional and logistical support for organizational activities.
- Previously organized KMK ITB's major annual Christmas event with a team of 40+ members, ensuring smooth execution across 5 divisions while adhering to project timelines.

Computer Science Student Association (HMIF) ITB

May 2024 – Jun 2024

Mentor

- Mentored 15+ first-year students by supporting their academic transition, helping them adapt to university life, and introducing them to early academic pathways within the computer science major.

Economics and Capital Market Student Group (KSEP) ITB

Apr 2023 – Apr 2024

Staff Member, Human Resource Development Division

- Conducted assessments and organized development activities that support the personal development of KSEP ITB members, such as online seminars and mentoring sessions.

Technical Skills

Programming Languages: Java, Go, Python, C, C++, C#, SQL, JavaScript, Bash

Systems: ZooKeeper, HDFS, HBase

Cloud Computing: CloudLab, AWS

Languages

English: IELTS Academic **8.0** (R 8.5 | L 9.0 | S 8.0 | W 7.0) — **CEFR Level C1**

Indonesian: Native