BIN CHOI

Portfolio: binchoi.github.io/projects · GitHub: binchoi · LinkedIn: binchoi · Email: binchoi@u.yale-nus.edu.sg

EDUCATION

National University of Singapore (Yale-NUS College)   **July 2019 ~ May 2025**[*]
BSc (Hons) in Computer Science   **Singapore, Singapore**
- *Yale-NUS Global Leader Scholar* – merit-based, full scholarship awarded to only eight students since inception.
- *Liberal Arts and Medicine Pathway* – one of four students offered early admission to postgraduate MD program.

Relevant Coursework: Software Engineering; Databases; Web Software Development; Parallel, Concurrent, and Distributed Programming; Computer Networks; Data Structures and Algorithm; Proof; Probability; Programming for Data Science; Artificial Intelligence; Machine Learning with Python [GPA: 4.85/5.00]

* Leave of Absence (2022-2024) for full-time employment

Columbia University   **August 2024 ~ Present**
BSc (Hons) in Computer Science (Exchange at Columbia Engineering)   **New York, NY**
- Teaching Assistant for *Advanced Software Engineering (COMSW4156):* grading assignments, leading office hours, and providing academic support to 160 graduate and senior undergraduate students at Columbia Engineering's CS department.

EXPERIENCE

MedViz (Yale School of Medicine)   **June 2024 ~ Present**
Software Engineer · Internship   **New Haven, CT**
- Designed and deployed a data pipeline using Apache Airflow, Docker, Redis, and RabbitMQ to automate semantic map generation, increasing processing capacity by **25 times** and reducing end-to-end latency by **70%.**
- Led the development of a multi-level topic discovery system for a biomedical literature visualization tool and increased topic uniqueness by **45%** with an innovative tree-based topic modeling algorithm.

Buzzvil   **June 2022 ~ June 2024**
Software Engineer (Server) · Full-time   **Seoul, South Korea**
- Led the backend development of a novel offerwall product *BuzzBenefit (Web),* from identifying system requirements and dependencies to software implementation, load testing, configuring monitors, deployment, and production troubleshooting, driving **$30 million** of revenue within the first-year post-launch.
- Designed and developed scalable APIs on enterprise-level microservices (Go, Python), serving **billions** of daily ad requests across **more than 95% of mobile devices** in South Korea, while optimizing key advertiser metrics such as Return on Ad Spend and User Acquisition.
- Engineered an innovative budget pacing algorithm inspired by PID controllers that achieved a **60% reduction** in budget overruns for high traffic burst campaigns.
- Architected a robust data integration system using Python and SQL to extract and process multi-format product catalog data from **over 50** e-commerce advertisers, ensuring timely synchronization and enhancing product recommendations.

SKILLS AND AWARDS

- *Best Poster Award* nomination at American Medical Informatics Association's 15th Visual Analytics workshop.
- AWS All Builders Grant 2024 ($4000)
- Yale College Dean's Research Fellowship ($5000)
- Selected as Skilled Industrial Personnel in Software Engineering for Republic of Korea.
- Languages: Korean, English – *all native proficiency*

TECHNICAL SKILLS

Programming Languages: Go, Python, Java, JavaScript
Databases: MySQL, DynamoDB, Elasticsearch
Messages & Streaming: Kafka, RabbitMQ, Redis
Monitoring & Logging: Prometheus, Grafana, Datadog, Loki

System Design & Architecture: Microservices, Domain-Driven Design, Design Patterns, Hexagonal, Event-Driven Architecture
DevOps & Infra: Docker, Kubernetes, AWS, Linux, Spinnaker
Data Engineering & Analytics: Airflow, Redash, Athena