

GitHub: <https://github.com/binchoi>
Portfolio: <https://bit.ly/3x0Ssm6>
Website: <https://binchoi.github.io>

BIN CHOI

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Candidate for Alternative Military Service [4급 보충역 - 전직]

SKILL STACK

Backend:

- Go, Python, Java
- Spring Boot, Spring MVC, Spring Data JPA, Spring Security
- JUnit, k6
- Gradle

DevOps:

- AWS – EC2, S3, RDS, CodeDeploy, Route53
- GitHub Actions, Jenkins
- Nginx

Database:

- MySQL, PostgreSQL

Frontend:

- HTML5, CSS3
- Bootstrap

Tools & Collaboration:

- Jira, Confluence
- Git
- Slack

Other Skills:

- Scala, OCaml
- R
- Linux/Bash
- LaTeX

EDUCATION

YALE-NUS COLLEGE

2019 | Present

BSc (Hons) in Mathematical, Computational, and Statistical Science (conc. in CS)

Singapore

- Yale-NUS Global Leader Scholar – merit-based, full scholarship awarded to only eight students since inception
- One of four students in the Class of 2023 selected for the Yale-NUS & Duke-NUS Liberal Arts and Medicine Pathway
- Relevant Coursework: Quantitative Reasoning, Introduction to Computer Science, Proof, Data Structures and Algorithm, Probability, Parallel, Concurrent, and Distributed Programming, Introduction to Computer Network, Programming for Data Science [GPA: 4.85/5.00]

AALTO UNIVERSITY

2022.01 | 2022.06

Exchange student to the School of Computer Science

Helsinki, Finland

- Completed several master's degree courses in the Computer Science and Management Department
- Relevant Coursework: Software Engineering, Introduction to Artificial Intelligence, Databases, Machine Learning with Python, Thinking Tools, Impact and Argumentation, Web Software Development [GPA: 5.00/5.00]

AMERICAN SCHOOL OF DOHA

2016 | 2019

International Baccalaureate (IB) and Advanced Placement (AP) Scholar

Doha, Qatar

- Graduated as Valedictorian with distinctions in Advanced Placement and International Baccalaureate [GPA: 3.98/4.00]

EXPERIENCE

HabitRacer (Solo Project)

2022.02 | Present

Software Engineer

- Developed an original web application with Java, Spring Boot, and AWS to introduce an element of competition to habit tracking and make the process of building new habits more interactive and immersive
- Implemented the Controller-Service-Repository design pattern using Spring MVC to construct an architecture that encourages modular, testable code
- Initiated Test-Driven Development using JUnit/SpringBootTest (for unit/integration testing) and JaCoCo (for code coverage assessment) and drastically reduced the time required for testing and maintenance activities
- Designed a schema for RDBMS/MariaDB and utilized Spring Data JPA to interact with the DB in object-oriented manner
- Automated the integration and deployment process (CI/CD) using GitHub Actions and AWS CodeDeploy (and S3) and reduced daily operations by ~1 hour
- Eliminated deployment downtime using Nginx reverse proxy to make the app accessible at every second of any day

Portfolio [HabitRacer]: <https://bit.ly/3NJDLKX> | GitHub: <https://github.com/binchoi/habit-racer> | Website: <https://habitracer.com>

Computational Biology Research

2020.12 | 2021.08

Research Assistant to Professor Nathan Harmston

- Assessed the performance of popular computational tools for the deconvolution of Patient-Derived Xenograft (PDX) data by conducting enrichment analysis, producing MA-plots, and quantifying the specificity and sensitivity of each tool to improve the accuracy of in-vivo cancer studies
- Developed an original computational pipeline for sequence data classification that implements an Expectation-Maximization algorithm from an Empirical Bayesian approach and attained a performance comparable to that of state-of-the-art tools
- Leveraged the efficiency of shell scripting to accelerate the preprocessing of large input data (text-based) and attained 80% speedup (relative to initial, Python-based script)
- Selected to present findings at the Yale-NUS Summer Research Symposium in recognition for outstanding research

Symposium Poster: <https://bit.ly/3swqdu8>

Freelance

2021.05 | 2021.07

Freelance Data Scientist

- Mentored a Singapore-based real estate developer on the application of data science to the built environment through guided learning of an online data science course at MIT's School of Architecture and Planning
- Analyzed real estate data and provided data-driven insights using Python (e.g. text mining, data cleansing, time series analysis, etc.), assisting a purchase decision of a property in Toronto worth ~\$2,000,000

TECHNICAL EXPERIENCE

Projects

- **HabitRacer** (02.2022 ~ Present). An immersive habit tracker that transforms habit building into a thrilling competition between friends and family members over incentivizing wagers. Solo project using Java, Spring Boot, AWS (EC2, RDS, S3, CodeDeploy), MariaDB, JUnit, Spring Security, Spring Data JPA, GitHub Actions, Mustache, HTML, Javascript, and CSS

Portfolio [HabitRacer]: <https://bit.ly/3NJDLKX> | GitHub: <https://github.com/binchoi/habit-racer> | Website: <https://habitracer.com>

- **Exploration of Parallel, Concurrent, and Distributive Programming** (August ~ Nov 2021). A guided exploration of Parallel, Concurrent, and Distributive Programming using Scala

Portfolio [PCDP]: <https://bit.ly/3Nbcr8M> | GitHub: <https://github.com/binchoi/ync-pcdp>

ADDITIONAL EXPERIENCE AND AWARDS

- Yale-NUS Global Leader Scholarship: merit-based full scholarship (\$56,400 / year)
- Translator/Interpreter: Korean-English interpreter for Korea Skating Union–Qatar Winter Sports Committee Conference
- Presenter at Yale-NUS Summer Research Symposium
- TEDx Host (2019)
- Programming for Hope for Education and Leadership in Afghanistan (Founder)
- Valedictorian
- TOEIC: 990/990