Jaehoon Song

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Software engineer with 4+ years of full-stack and systems development experience. Proficient in C, C++, C#, Python, SQL, LaTeX, and more; focused on building reliable, maintainable software demonstrated through open-source contributions.

Education

Georgia Institute of Technology | Atlanta, GA — *Dec 2025*
Bachelor of Science in Computer Science — GPA: 3.87/4.00

- Completed coursework in calculus, linear and abstract algebra, probability & statistics, data structures and advanced algorithms, discrete mathematics, automata and complexity theory, and number theory with applications to cryptography.
- Developed expertise in frontend stack (data visualization with D3.js, OpenGL, Unity), project management, design documentation, and verbal and written communication
- Achieved Dean's List recognition, College of Computing, 2022

Gwinnett Technical College | Lawrenceville, GA — *May 2021*
Associate of Applied Science in Computer Science — GPA: 3.96/4.00

- Completed coursework in IT Analysis, Project Management, and Advanced Systems Project
- Developed expertise in Linux customization, operating systems, and C/C++ programming, application development (Java for enterprise and Python for data analysis and media processing), database management systems (Oracle SQL, MS Access), software architecture (MVC), socket programming, Java Beans, Servlets, JSP, RESTful APIs, and network configuration/security
- Earned Java Programmer Certificate, Honor's List, and Award of Merit
- Gained membership in Phi Theta Kappa, National Technical Honor Society, and Student Ambassador

Experience

Columbia Academy | Duluth, GA — *Present*
Freelance Lecturer (1099 Contractor)

- Instructed mathematics courses including SAT, AP Calculus, Linear Algebra, Multivariable Calculus, and Combinatorics for high school students as well as science courses including AP Physics 1/2, and AP Physics C (Mechanics and Electricity & Magnetism) since September 2024.
- Instructed computer science courses including AP Computer Science A (Java), AP Computer Science Principles (JavaScript), and Python following Georgia Tech CS 1301 and CS 1331 curriculum standards at Columbia Academy since January 2025.
- Developed comprehensive SAT bootcamp materials and released them as open educational resources under the CC BY-NC-SA 4.0 license.
- Created structured learning environments for AP Computer Science Principles and advanced mathematics preparation

Georgia Institute of Technology, School of Physics | Atlanta, GA — *Sep 2025*
Teaching Assistant (TA)

- Operated lab sessions for PHYS 2211 by Emily Alicea-Muñoz since January 2023.
- Assisted students in completing lab assignments and understanding physics concepts.
- Prepared course documentation using LaTeX typesetting system with professional teaching experience
- Applied knowledge of kinematics, dynamics, thermodynamics, energy and momentum in lab instruction
- Earned Faculty Honors from School of Physics, 2023

Georgia Institute of Technology, School of Computer Science | Atlanta, GA — *Dec 2022*
Undergraduate Teaching Assistant (UTA)

- Conducted office hours and recitation sessions of CS 2050 to support student learning in discrete mathematics and related topics under the supervision of the College of Computing faculty.
- Prepared and edited problem sets, solution guides, and recitation handouts using LaTeXand coordinated with instructors to align recitation content with course objectives
- Applied expertise in set theory, proofs, induction, combinatorics, basic graph theory, and introductory algebra/number theory for algorithms and cryptography

SK C&C USA | Suwanee, GA *Sep 2021*
Software Engineer/Developer

- Developed and operated MES, WMS, and SCM systems for SK Global Battery manufacturing.
- Configured Windows OS and hardware systems, implemented networking (Ethernet) and transfer protocols, developed applications using .NET C# WinForms, and performed Oracle Database Administration (DBA) duties for enterprise systems

Projects

Greater Youth Collaborative Opus (GYCO) | Remote *Oct 2025*
Web Developer (Freelance)

- Developed a complete static website for Korean-American youth orchestra institution using SASS for Bootstrap customization and Vanilla JavaScript
- Implemented comprehensive website system architecture including SNS integration in footers, article management system for student administrators, and content management capabilities
- Created user-friendly admin interface enabling students to maintain and manage all article content independently
- Delivered fully functional, responsive website with custom styling and interactive features for youth community engagement

TradingBot (Automated Trading System) | Remote *May 2025*
Software Engineer/Developer

- Designed and implemented an automated trading system using low-level HTTP library (`request`) for direct API connectivity with brokers/exchanges.
- Built a scheduler-driven concurrency engine to continuously initiate and coordinate trading logic throughout the trading day with rate-limit and retry policies.
- Implemented robust risk and accounting modules: real-time asset tracking, per-instrument and portfolio P&L, debit/credit monitoring, cash-to-equity ratio checks, position sizing, and margin considerations.
- Developed order management, error handling, persistent logging, and reconciliation routines to maintain accounting integrity and auditability.
- Added integration tests and simulation tooling for backtesting/streaming validation; documented system architecture, deployment, and safety controls in the repository.

Grady Health System (Not publicly available) | Atlanta, GA *May 2024*
Software Engineer/Developer

- Developed a heart-care application to reduce hospital readmissions by detecting complications early from patient-reported data as a year-long capstone project coordinated with Dr. Muling Lin from College of Medicine, Emory University
- Led system architecture design and comprehensive design documentation
- Developed a local database (Only prototype available) with minimal UI and socket connection private networking using Apache Derby database engine with customized SQL for specific medical use cases
- Implemented statistical analysis modules for patient-reported data trends and alert systems for clinicians on the web portal
- Distributed mobile app for patients and secure web portal construction for clinicians, with intellectual property assigned to College of Medicine, Emory University

Skills

Language Proficiency: English, Korean (Native), Japanese (Intermediate)
Programming Languages: Java/Kotlin, Python, C/C++/C#, JavaScript
Domain-Specific Languages: Bash for Linux and OS X (Linux Customization), Batch for Windows, Perl and AWK for text processing and system administration, HTML/CSS for web, LaTeX for typesetting, MATLAB and Mathematica for numerical computing
Databases with SQL: Oracle, SQLite, Microsoft Access, Apache Derby (Java embedded)
GUI Frameworks and Libraries: QT for C++, PyQt for Python, JavaFX, Java Swing, WinForms (.NET C#), Unity (C#)
Web Frameworks and Libraries: React, Node.js, Flask, FastAPI, SASS (Bootstrap customization), D3.js, Web hosting (Apache Tomcat, AWS)

Testing Frameworks: JUnit, PyTest, Unittest, Unity Test Framework, NUnit (C#)
Developer Tools: Version Control (Git), GitHub/GitLab, Virtual Machine and Containers (Docker), Agile workflows (JIRA and Confluence), IDEs and Text editors (VS Code, Visual Studio, PyCharm, IntelliJ, Eclipse, etc.)
Other Software Tools: MS Office (Word, Excel, PowerPoint, Outlook), Adobe Design Tools, Cloud Services

References

Available upon request.