Jaehoon Song

402 Suwanee Oaks Dr NE, 30024, Suwanee, Georgia | +1 470-350-8926 | jsong421@gatech.edu | GitHub

Software engineer with 4+ years of full-stack and systems development with proof-based CS foundation, combining formal reasoning and practical engineering to build scalable backends and high-performance frontends.

Education

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

- Built a proof-based theoretical foundation through coursework in calculus, linear and abstract algebra, probability & statistics, discrete mathematics, algorithms & complexity, automata theory, and number theory with cryptography applications
- Developed advanced problem-solving and algorithm design skills, including statistical methods, finite-state-machine (FSM)-based solutions, and online algorithms
- Gained frontend and graphics development experience: D3.js data visualization, OpenGL, and Unity game development
- Developed project management, design documentation, and cross-team communication skills
- 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, C/C++ programming, concurrency/multi-threading, software architecture (MVC), socket programming, Java Beans, Servlets, JSP, RESTful APIs, and network configuration/security
- Gained proficiency in enterprise application development: Java for enterprise systems, Python for data analysis and media processing, and database management (Oracle SQL, MS Access)
- 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 (SAT, AP Calculus, Linear Algebra, Multivariable Calculus, Combinatorics), science courses (AP Physics 1/2, AP Physics C), and computer science courses (AP Computer Science A in Java, AP Computer Science Principles in JavaScript, Python) following Georgia Tech CS 1301 and CS 1331 curriculum standards for high school students since September 2024
- Developed comprehensive SAT Summer bootcamp materials using customized LaTeXenvironments and commands for professional typesetting and released them as open educational resources under the CC BY-NC-SA 4.0 license

Georgia Institute of Technology, School of Physics | Atlanta, GA *Dec 2024*
Teaching Assistant (TA)

- Operated lab sessions for PHYS 2211 under Emily Alicea-Muñoz from January 2023
- Assisted students in completing lab assignments and understanding physics concepts including kinematics, dynamics, thermodynamics, energy, and momentum
- 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 for CS 2050 to support student learning in discrete mathematics (set theory, proofs, induction, combinatorics, graph theory, number theory, and cryptography) under the supervision of 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

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

- Contributed to MES, WMS, and SCM systems for SK Global Battery manufacturing, focusing on networking components and PLC communication via XML data exchange protocols
- Configured virtual machines, Windows OS, and hardware systems using Ethernet networking and transfer protocols
- Maintained data consistency across factory plant systems and operated Oracle Database systems

Projects

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

- Developed a complete static website for Korean-American youth orchestra institution following MVC architecture using SASS for Bootstrap customization and Vanilla JavaScript
- Designed intuitive UI/UX with SNS integration, article management system, and content management capabilities for student administrators
- Created educational system architecture enabling students to understand web development principles and maintain the website independently

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 using JSON data exchange format
- Built a scheduler-driven concurrency engine to continuously initiate and coordinate trading logic throughout the trading day with rate-limiting and retry policies
- Implemented accounting modules for real-time asset tracking, per-instrument and portfolio P&L, debit/credit monitoring, cash-to-equity ratio checks, rebalancing, and margin considerations
- Developed specialized modules for index stock (SPY, QQQ, etc.) handling and dividend option strategies with dynamic status monitoring based on debit/credit conditions
- Built order management, error handling, logging, and reconciliation routines to maintain accounting integrity and auditability

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 and following the Scrum framework of Agile 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 (prototype only) 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
- Delivered mobile app for patients and secure web portal 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, JSON/XML for data exchange, HTML/CSS for web, LaTeX for typesetting, MATLAB and Mathematica for numerical computing
Databases with SQL: Oracle, SQLite, Microsoft Access, Apache Derby (Java embedded)
Frameworks and Libraries: QT, PyQt, JavaFX, Java Swing, WinForms (.NET C#), Unity (C#), 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 Machines and Containers (Docker), Agile workflow tools (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.