VINCENT JIANG

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EDUCATION

Cornell University — *Bachelor of Science in Computer Science*   Ithaca, NY | Expected: May 2025
- GPA: 3.94
- Relevant Coursework: Object-Oriented Programming & Data Structures (Java), Discrete Structures, Computer System Organization and Programming (C), Trends in Web Development (TypeScript), Linear Algebra, Functional Programming (OCaml), Algorithms, Machine Learning (Python), Natural Language Processing, Systems Engineering Project (Python)

SKILLS

Programming Languages: Java, C/C++, Python, JavaScript, TypeScript, HTML/CSS, OCaml, SQL
Technologies and Frameworks: Git, React.js, jQuery, Jest, Node.js, JUnit, AWS, Firebase

EXPERIENCE

Software Engineer — *Cornell Cup Robotics*   Ithaca, NY | Feb 2022 — Present
- Translate user speech inputs to text using machine learning and natural language processing as part of the CS Chatbot team for the C1C0 (an R2-D2-inspired robot) project
- Reduce user speech-to-text translation errors by 22% by implementing algorithms using Python, including Levenshtein distance, a metric for word similarity
- Integrate facial recognition features and commands into the C1C0 Chatbot user interface and ensure program correctness and implementation of APIs to fetch data upon user speech input through regression and unit testing

Software Engineer Intern — *Yoomi*   Ithaca, NY | Aug 2022 — Present
- Refactor and develop code in TypeScript responsible for motion-tracking behavior, data collection, and animations on HTML5 Canvas to provide an interactive, gamified experience for in-patients in physical therapy during exercise
- Design robust test suites using Jest to ensure drawing from interpreted on-screen objects from camera (OpenCV) are accurate, efficient, and scalable to new types of animations and user movements

Tutor and Course Consultant — *Cornell University*   Ithaca, NY | Jan 2022 — Present
- Foster collaborative environments for student engagement and learning as part of the Engineering Learning Initiatives (ELI) program at Cornell Engineering
- Lead and instruct 50+ students in Object-Oriented Programming & Data Structures and Multivariable Calculus for Engineers
- Facilitate discussion classes and consultations, assist in exam and assignment grading, and promote student understanding of course materials, software development tools (Git, GitHub, IntelliJ IDEA), and programming practices

Resident Advisor — *Cornell University*   Ithaca, NY | Aug 2022 — Present
- Lead and inform 40+ first-year residents at Clara Dickson Hall of campus events and community involvement opportunities
- Work and collaborate with the Dickson residential staff team to ensure resident safety, inclusion, and wellbeing

PROJECTS

Portfolio — *JavaScript, HTML/CSS, jQuery*   Aug 2022

Towers of Hanoi — *JavaScript, HTML/CSS, React.js, Three.js, Firebase*   Jul 2022 — Aug 2022
- Web application and game based on the Towers of Hanoi math puzzle, where users follow a set of rules to move disks to towers
- Designed and programmed responsive user interface, dynamic component behavior, and 3D animations and rendering through React.js, react-three/fiber, use-gesture, and react-spring
- Employed OAuth 2.0 authentication and added database to store and fetch user game data using Cloud Firestore
- Implemented heuristic algorithms to optimize solution animations to puzzle constraints: Standard, Adjacent, and Bicolor

Terrain Map — *Java, Swing, AWT*   Jun 2022 — Jul 2022
- 3D visualization tool for popular stochastic algorithms for fractal landscape generation that model Brownian motion, including Midpoint Displacement, Diamond Square, and Perlin Noise
- Developed GUI and implemented custom display features supported by StdDraw, a simple 2D graphics library

Choice Game — *C, ImageMagick*   Jan 2021 — Feb 2021
- Choice-based game run on the terminal that relies on user command-line inputs to narrate a picture-aided storyline
- Coordinated a three-member team in project design and coding process employing systems-level programming concepts: files, pointers, dynamic and static memory allocation, threads, and processes

ACCOMPLISHMENTS

2x Cornell Engineering Dean's List Recipient   Aug 2021 — Present
2x American Invitational Mathematics Examination (AIME) Qualifier   Apr 2020 — Apr 2021
- Scored in the top 5% of examinees for the American Mathematics Competitions (AMC 12)