Haruki **Gonai**

Computer Science Student

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Education

Columbia University - Fu Foundation School of Engineering and Applied Science *New York, NY*

B.S. in Computer Science *Expected May 2023*

- **GPA:** 4.14/4.33 (4.00/4.00). **Departmental GPA:** 4.33/4.33 (4.00/4.00).
- **Relevant Coursework:** Fundamentals of Computer Systems, Analysis of Algorithms I, Advanced Programming (Systems Programming), Computational Linear Algebra, Data Structures in Java, Discrete Mathematics, Introduction to Computer Science and Programming in Java, Introduction to Computing for Engineers and Applied Scientists, Probability for Engineers, Intermediate Macroeconomics, Accelerated Multivariable Calculus.

Skills

Programming Languages: Java, Python, C, JavaScript.

Other: React, CSS, HTML, Android Studio, Git, LaTeX , NumPy, Matplotlib, MS Excel, p5.js.

Work Experience

Sonar Health *New York, NY*

Software Engineer Intern *June 2021 - Present*

- Developed over 20 web pages from scratch using React, JavaScript, HTML, and CSS.
- Performed code reviews on over 10 web pages, provided feedback to team members.
- Reviewed pull requests on GitHub to ensure main branch is functional and up to date.

Spark Your Startup, LLC *New York, NY*

Software Engineer *Jan. 2021 - Present*

- Front end development with Java and Android Studio to build software products for startup entrepreneurs.

Northeast Big Data Innovation Hub *New York, NY*

Student Assistant *Jan. 2021 - Present*

- Migrated Excel data to update over 200 awards in COVID Information Common's NSF COVID Awards and PI Database (`https://covidinfocommons.datascience.columbia.edu/awards`).
- Accelerated removal of duplicate keywords in awards contained in NSF COVID Awards and PI Database using Python.

Columbia University, Electrical Engineering (EE) Department *New York, NY*

Office Assistant *Jan. 2020 - May. 2020*

- Automated the processing of over 2000 pages of alumni data using Java and Excel into large company databases, spreadsheets, and resume book for Career Placement Officer.
- Collaborated with Career Placement Officer to review and approve hundreds of internship-related documents for international Columbia EE students.

Projects

Filler *April 2021 - May 2021*

- Recreated Filler game from iOS GamePigeon in C.
- Added player vs. player mode in which players can play against each other online via the Sockets API.
- Added player vs. bot mode in which a player can play against a bot running on the minimax algorithm.

Dodgeball *July 2020 - Present*

- Designing 3D physics engine and developing realistic first-person dodgeball game in p5.js.
- Experimenting with intelligent computer opponent strategy to simulate realistic gameplay.
- (Working prototype: `http://www.columbia.edu/~hg2541/dodgeball.html`, Directions: Click on screen, press 't' to start. 'Shift', 'w', 'a', 's', 'd' to move. Left mouse click and hold to grab ball.)

Publications

- Sofias, A. M., Toner, Y. C., Meerwaldt, A. E., Leent, M. M. T. V., Soultanidis, G., Elschot, M., … Hak, S. (2020). Tumor Targeting by αvβ3-Integrin Specific Lipid Nanoparticles Occurs via Phagocyte Hitchhiking. ACS Nano. doi: 10.1021/acsnano.9b08693