Taisuke **Yasuda**

Mathematics · Computer Science

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Education

Carnegie Mellon University — *Pittsburgh, PA*

BS and MS in Mathematics, Additional Major in Computer Science — *Aug 2015 - May 2019*

- Accepted into Honors Math Program, which leads to a MS in mathematics in 4 years
- Awarded Carnegie Scholarship for academic and artistic achievement
- GPA 3.85/4.00, Dean's List Fall 2015, Spring 2016

Activities: CMIMC Organizing Team Member, Math Club, Mellon Heads, All University Orchestra

Selected Coursework: A Theorist's Toolkit (Graduate), Probability (Honors), Math Studies Analysis I / Algebra I (Honors), Great Theoretical Ideas in CS, Matrix Theory (Honors), Functional Programming, Imperative Computation, Server Side Scripting with Node, Modern Version Control with Git

Experience

Mathematics Dept., Carnegie Mellon University — *Pittsburgh, PA*

Putnam Seminar (21-295) Grader — *Sep 2016 - Present*

- Graded homework for Prof. Po-Shen Loh's Putnam Seminar course for a section of ∼40 students
- Provided personal feedback and help to students

Barth Lab, Neuroscience Dept., Carnegie Mellon University — *Pittsburgh, PA*

Research Assistant — *Jan 2016 - Present*

- Constructed and analyzed a hierarchical statistical model of the behavior of SST-Pyr synapses
- Implemented statistical analyses and visualizations in Python
- Wrote a manuscript for publication (currently in the process of editing)

Max Planck Florida Institute for Neuroscience — *Jupiter, FL*

Research and Programming Intern — *Jun 2014 - Aug 2014*

- Developed a Java program used in a virtual reality system used to monitor brain activity of mice
- Mathematically derived geometric transformation mapping 2D game images to a 3D virtual reality experience
- Incorporated the transformation into the virtual reality system via Unity game engine

Projects

Dendrite Trace — *Pittsburgh, PA*

15-112 Term Project — *Nov 2015 - Dec 2015*

- Developed an algorithm based on reinforcement learning for automatic tracking of dendrites on 3D images
- Incorporated machine learning classification algorithms for local search
- Implemented the algorithm in Python along with tools for manually generating training data

Honors & Awards

Feb 2016	**Top 3**, TartanHacks	*Pittsburgh, PA*
Feb 2016	**Winner**, CMU All University Orchestra Concerto Competition	*Pittsburgh, PA*
Apr 2015	**2nd Place**, Pathfinder Scholarship in Mathematics	*Palm Beach, FL*
May 2015	**Winner**, Dreyfoos Philharmonic Concerto Competition	*Palm Beach, FL*
Apr 2015	**Winner**, Allegro Society Scholarship	*Palm Beach, FL*
Feb 2015	**2nd Place**, Alhambra Orchestra Concerto Competition	*Miami, FL*

Skills

Programming Languages

Comfortable Python, C, LaTeX

Familiar Java, Matlab, JavaScript, HTML/CSS

World Languages

Comfortable Japanese (native)

Familiar Mandarin Chinese (2 semesters)