JUSUNG PARK

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EDUCATION

Dartmouth College, Hanover, NH **June 2025**

Bachelor of Arts in Computer Science, Bachelor of Arts in Neuroscience **GPA: 3.85/4.0**

Relevant Coursework: *Software Design and Implementation, Machine Learning and Statistical Data Analysis*
Object-Oriented Problem Solving, Discrete Mathematics, Introduction to Computation and Programming

Activities: SHEBA Dance Troupe, Breakfast Club Hip-Hop Collective, Korean Student Association, Alpha Chi Alpha (Local Chapter), Discomfort Trolley Ultimate Team

PROJECTS

Behavioral T-Maze Automation | C++, Arduino IDE, AutoCAD

- Automated a T-maze apparatus using Arduinos and C++ that facilitates mice research for undergoing a texture discrimination task with minimal human interference and standardized results.
- Implemented Plexiglass, Servo Motors, Stepper Motors, IR break-beam sensors, and 3-D printed models specialized to mice behavioral patterns and simulate an appropriate environment for the rodents.

Pathfinder | Python

- Developed a pathfinder program utilizing breadth-first search binary tree algorithms with backchaining and breadcrumb search to optimize path search to a certain destination from an origin.
- Achieved an interactive road map of Dartmouth College's campus through translating coordinates into vertices and animated the map to visualize the breadth-search display process unfold graphically.

File Compressor/Decompressor | Java

- Incorporated Huffman encoding within trees, maps, priority queues, and file i/o's to minimize .txt files to optimize memory usage and transfer speed.

RELEVANT EXPERIENCE

Psychology and Brain Science Department, Dartmouth College, Hanover, NH **Jan. 2022 - Present**

Research Intern

- Code the simulated impact of different synaptic conductances in AMPA- and NMDA-type glutamate receptors on the integration of excitatory synaptic transmission by programming the NEURON simulation environment tool in Python and hoc languages.
- Perform behavioral analysis on the compulsivity of sign tracking behavior in rats amongst sexes through the inhibition of the dorsolateral nucleus under the supervision of Dr. Kyle Smith.

Boston Dance Alliance, Cambridge, MA **June 2022 - Aug. 2022**

Data Analyst

- Conducted network analysis in social media engagement and outreach to expand the company's network within the greater Boston area.
- Worked closely with the technical and non-technical personnel to research heritage dance groups in the Northeast region and identify their needs that the organization could provide through funding and cooperation.

Department of Neurobiology, Duke University, Durham, NC **June 2018 - Dec. 2020**

Research Intern

- Led a research team of three on mice behavioral perception in discriminating various textures with whiskers under the supervision of Dr. Fan Wang and Dr. Vincent Prevosto.
- Programmed and built an automated Arduino-run apparatus in C++ for mice behavioral research.
  Citation: doi:10.31219/osf.io/8gbvd.

LEADERSHIP

Computer Science Teaching Assistant, Dartmouth College, Hanover, NH **Jan. 2022-Present**

Teaching Assistant

- Lead weekly recitation sections and conducted office hours to reinforce concepts taught in the Python class and provided feedback to encourage progress. Demonstrated proficiency in Agile methodologies to manage projects and ensure timely completion of assignments.

SKILLS & CERTIFICATIONS

Coding Languages: Python, Java, C, C++, Unix/Linux, Git, bash shell scripting

Languages: Native in Korean, Fluent in English, Intermediate Proficiency in Latin, Elementary Proficiency in Spanish