Lindsey Kim

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EDUCATION

Dartmouth College, Hanover, NH **June 2024**

B.A. Computer Science & B.A. Mathematical Data Science | GPA: 3.60

Relevant Coursework: *Problem Solving via Object-Oriented Programming, Discrete Mathematics in Computer Science, Software Design and Implementation, Algorithms, Full Stack Web Development, Topics in Applied Mathematics*

Awards/Honors: *Jack Byrne Scholar in Math and Society, 2020-2024. Rotary Century Scholar, 2020.*

WORK EXPERIENCE

DIFUSE Project, Hanover, NH **September 2023 - Present**

Data Science Intern

- Designed and programmed three interactive data science modules for STEM and social science courses using funding from the National Science Foundation in order to promote the learning and application of data science
- Integrate backend data management and visualization tools with mobile applications developed in the DALI Lab

Cionic, San Francisco, California **June - August 2023**

Software and Hardware Engineering Intern

- Built a mobile and web application using Cionic's JavaScript-based SDK and WebRTC, boosting Cionic's WebGL processing speed by 15% and enabling users with mobility impairments to perform therapeutic exercises on a 3D piano with functional electrical stimulation to aid in achieving rehabilitation and movement goals
- Designed a lightweight glove prototype with eight sensors for Cionic's hardware kit, enabling realistic virtual hand motion tracking and visualization by monitoring hand orientation and EMG data through signal processing
- Created Cionic's first 3D WebGL gaming application that uses signal data to visualize the motion of Cionic's neural sleeve, allowing users to perform physical therapy exercises in a competitive environment

RESEARCH

Empower Lab, Hanover, NH **January 2022 - Present**

Research Assistant

- Coordinated with a diverse interdisciplinary team to design and implement interactive tools for physical rehabilitation, leveraging hardware and 3D software development to enhance user experiences and outcomes
- Implemented sockets for fast data streaming allowing interactive use of hardware devices in virtual environments
- Build a convolutional neural network with PyTorch to accurately predict gestures from forearm EMG signals

KAIST SoftSec Lab, Daejeon, South Korea **January - March 2023**

Student Researcher

- Developed a fuzzing competition and open-source platform in order to seamlessly and rigorously evaluate new fuzzer technology with standardized benchmarks and comprehensive performance analytics
- Collaborated in the development of a standard input language for fuzzer testing, expanding on the existing state-of-the-art by creating an adaptable language that better accommodates dynamic fuzzer inputs

Dartmouth College, Hanover, NH **June - November 2021**

Undergraduate Research Assistantships at Dartmouth Scholar, Professor Bo Zhu

- Programmed a method to precisely and accurately predict physical systems, using a neural network constructed in PyTorch to identify, learn, and enforce a system's physical constraints based on observed and predicted behavior
- Expanded the capabilities of the neural projection architecture by incorporating implicit functions for constraint detection while optimizing parameters and experimenting with different shapes to increase predictiveness
- Rendered physical systems with enhanced resolution by optimizing parameters in 3D modeling software

ADDITIONAL EXPERIENCE

Sejong Korean School, Boise, ID **August 2020 - March 2021**

Volunteer Math and Computer Science Teacher

- Designed an engaging and comprehensive introductory Python course for 15 students with Zoom classes

SKILLS & INTERESTS

Computer: Java, Python, C, C#, Unix, Javascript, PyTorch, Data Analysis, Fuzz Testing, 3D Modeling, R, React
Languages: English, Korean, Spanish
Interests & Activities: Women in STEM Program, yoga, reading, guitar, meditation, traveling, Kappa Delta Epsilon