Hye Woong Jeon

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EDUCATION

University of Chicago *Chicago, IL*
Bachelor of Science in Mathematics & Statistics *Expected graduation: June 2023*
Cumulative GPA: 3.918/4.0
Major GPA: 3.95/4.0
Relevant Coursework: Statistical Theory and Methods I-II, Introduction to Computer Science I-II, Stochastic Processes

Financial Markets Program (formerly, UCIB: FM)
- Accepted into a selective three-year program focused on building business acumen for quantitative roles in the financial markets through weekly workshops, and curriculum at the Booth School of Business

The Hotchkiss School *Lakeville, CT*
Cumulative GPA: 3.8/4.0 *August 2013 - May 2017*

EXPERIENCE

3DL | Chicago, IL *September 2021 - Present*
Deep Learning Researcher
- Modified generative image synthesis idea to create a novel graph synthesis solution using PyTorch
- Implemented data generation algorithm for meshes that satisfy various conditions such as resolution
- Presented computer vision and 3D deep learning academic papers to a weekly reading group

Cochlear.ai | Seoul, South Korea *June 2021 - August 2021*
Software Engineering Intern
- Developed SQL database architecture and distribution methods for government's cloud-worker sound labeling project
- Constructed editing tool for modifying sound ontology hierarchies with custom-made Python packages
- Designed highly interactive ontology GUI using Python, Flask, and Cytoscape JS
- Collaborated with database managers and cloud-workers to create frictionless experience for audio segmentation

University of Chicago Mathematics REU | Chicago, IL *June 2021 - August 2021*
Researcher
- Authored a self-contained exposition that explores Benoit B. Mandelbrot's Multifractal Model of Asset Returns
- Studied fractal dimension and scaling behavior in random processes such as Fractional Brownian Motion
- Explored several definitions of fractal dimension such as Hausdorff dimension or Minkowski dimension
- Investigated and implemented methods of creating multifractal measures and processes using Python

University of Chicago Mathematics REU | Chicago, IL *June 2020 - August 2020*
Researcher
- Aided mentors in distributing weekly problem sets and organizing solution presentations for apprentices
- Studied ergodic theory to develop base knowledge for investigating higher-level properties of dynamical systems
- Authored an exposition that illustrates the equivalence of two notions of entropy under ergodic conditions

SELECTED PROJECTS

Audio Fingerprinting *(Shazam reconstruction)* *November 2020 - January 2021*
- Designed tools for preparing audio files for fingerprinting protocols, and methods for identifying by file or by microphone
- Developed a user-friendly command-line interface, capable of both fingerprinting and identifying songs
- Used binary morphology to sharpen spectrogram images and identify frequency peaks for constellation mapping
- Constructed an SQL database to manage audio files and audio fingerprint data to identify fingerprints quickly

Scheduling Algorithm *March 2020 - April 2020*
- Utilized simulated annealing (SA) to automate the search for the fairest possible watch duty schedule
- Experimented with energy-state changing methods to determine suitability for optimal performance in SA algorithm
- Implemented a genetic algorithm that encodes schedules to compare against SA's speed and performance results

Cryptography Implementations *January 2019 - April 2019*
- Created ElGamal and RSA encryption and decryption implementations using Mathematica and Python
- Programmed essential number theory algorithms such as the fast-powering algorithm and the Miller-Rabin primality test

SKILLS & INTERESTS

Skills & Languages: Python, R, SQL/RDBMS, Javascript, D3.js, Microsoft Office; English, Korean
Interests: Poker, close-up magic, cello, music visualization, philosophy, Formula One Racing