MATTHEW HO

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EDUCATION

Carnegie Mellon University *May 2022*
Ph.D in Physics
Focus: Computational and Applied Physics

University of Illinois at Urbana-Champaign *May 2017*
B.S. in Engineering Physics; James Scholar
Minor in Mathematics
GPA(Overall): 3.5/4.0 GPA(Technical): 3.8/4.0

EXPERIENCE

Quantitative Trading Intern May - August 2016, 2017
Virtu Financial (formerly KCG Holdings LLC) *New York City, NY; Chicago, IL*

· Applied machine learning and data mining techniques to signal research in ETF, Eurodollar future, and commodity future markets.

Undergraduate Researcher, Condensed Matter Theory May 2015 - May 2017
University of Illinois at Urbana Champaign; Lucas Wagner Group *Urbana, IL*

· Developed data mining software to gather, parse, and analyze published results regarding magnetic and electronic properties of known superconductors.
· Identified new potential superconductors based on structural patterns of known materials.

Undergraduate Researcher, Informatics September 2014 - May 2015
National Center for Supercomputing Applications; Guy Garnett Group *Urbana, IL*

· Developed an unsupervised machine learning algorithm capable of expressively interpreting human movement in an artistic performance. Designed a set of mechanics classifiers which could differentiate movements with double the accuracy of traditional Laban Movement Analysis.
· Implemented a simulation control system to visualize artistic expression in live performance.

ACTIVITES/LEADERSHIP

President, Social Director December 2015 - December 2016
Triangle Fraternity - Illinois

Presided over a social-professional engineering fraternity of over 80 members. Fostered the establishment of two, independent brother-run technology startups, a sponsored, green energy microgrid project, and a 10% increase in overall house GPA.

Design Lead September 2014 - May 2016
UIUC iRobotics

Led design and construction of motorized robotic systems to compete in the Midwestern Robotics Design Competition. Achieved fourth place during two subsequent competitions.

Chemical Lead September 2014 - May 2016
Student Space Systems, Propulsion

Led theoretical analysis and performance prediction of a Class N hybrid rocket engine design. Successful hot fire test broke records for most powerful engine built by University of Illinois students.

TECHNICAL STRENGTHS

Computer Languages	Python, C++, Java, MATLAB, HTML/CSS, Javascript,
Development	Chrome Extensions, Android/iOS Applications, Flask Servers
Database	Vertica, MySQL, PostgreSQL
CAD	Audodesk Inventor
Tools	Git, Vim, LaTeX