

Casey Q. Pancoast

Explorer of reality, citizen of Earth, almost-graduate of Northeastern University.

Personal Info

Name: Casey Q. Pancoast

Email: cqpancoast@gmail.com

Github: cqpancoast

Objectives

Use the methods of theoretical physics to research intelligence, likely in the burgeoning field of interpretable AI. Before that, travel the world.

Education

Northeastern University

September 2017 - May 2021

Combined Bachelor's of Science in Computer Science and Physics

- **GPA:** 3.7 / 4.0
- **Relevant coursework:** Quantum Field Theory, Advanced Machine Learning, Advanced Writing in the Sciences, Computational Physics, Deep Learning, Algorithms, Advanced Physics Laboratory, Theory of Computation, Software Development, Object Oriented Design, Computer Systems, Probability and Statistics, Complex Networks, Electronics
- **Extracurriculars:**
 - Mentoring students for the Northeastern's chapter of *Society of Physics Students*.
 - Writing and editing for Northeastern's satirical newspaper *Husky Husky*.

Research

“Neural Networks, Fermions, and Supersymmetry”

October 2020 - Present

Northeastern High-Energy Theory Group

- Investigating an extension of NNQFT correspondence [<https://arxiv.org/abs/2008.08601>] to fermions and supersymmetry

Independent Study in Computational Complexity

September 2020 - December 2020

CS 4991: Directed Study

- Spent ten hours per week learning computational complexity theory
- Wrote *A Visual Companion to Complexity Theory Basics*, an introduction to complexity theory which focuses on building visual intuition [cqpancoast.com/pdf/VCCTB.pdf]

Undergraduate Researcher at CERN

January 2020 - June 2020

CMS Track-Trigger Project

- Wrote `ntupledicts`, a CMS-track-trigger-specific framework for building, training and testing machine learning models [<https://pypi.org/project/ntupledicts/>]
- Used package to determine optimal form and training data for future hardware electron discriminator [<https://github.com/cqpancoast/cms-tracktrigger-ml>]

Awards

- **Summit Award** — Northeastern University PEAK Experiences Awards *Spring 2021*
- **Physics Research Internship Award** — Northeastern University Physics Department *Spring 2021*
- **Dean's List** – Northeastern University {*Fall 2017, Spring 2018, Fall 2018, Fall 2019, Fall 2020, Spring 2021*}
- **Lawrence Award for Undergraduate Excellence in Physics** — Northeastern University Physics Department *Fall 2017*

Skills

Computers

Languages

Python, Java, Javascript, C, ShellScript, C#, Matlab

Software

Git, Zsh/Bash, Vim, Unity, Blender, Excel

References

Available upon request.