

LIAM PACKER

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WORK EXPERIENCE

Johns Hopkins University Applied Physics Laboratory

Jun 2020–Present

Data Scientist, Algorithm Developer

Laurel, MD

- Applying modern machine learning techniques in deep model uncertainty estimation and computer vision to scientific problems.
- Co-I and PI of multiple R&D efforts, funding ranging from \$5k-\$5m.
- Full-stack software design and architecting for processing and analysis systems for Parker Solar Probe, MRO's CRISM, and other internal efforts.
- Performed fundamental research on uncertainty estimation for deep learning models.
- Formulated and implemented solutions to real-time sensor planning optimization problems.
- Contributed to building and testing a low SWaP fiber-optic mode-locked laser for exoplanet detection.
- Developed high-performance C++(17) image processing libraries for real-time state estimation.
- Full-stack development for processing and visualizing real-time tracking and data fusion.

Swarthmore College

Jun 2018–Aug 2019

Undergraduate Research Fellow

Swarthmore, PA

- *Jamming of Granular Materials in a Pin Lattice (2019)* Advisor: Amy Graves
- *Predicting Cluster Memory Usage for Adaptive Network RAM (2018)* Advisor: Tia Newhall

EDUCATION

Johns Hopkins University *Baltimore MD*

May 2021–Present

Master of Science - Applied Physics (Ongoing)

GPA: 4.0

- **Coursework:** Statistical Mechanics, Sensors and Sensor Systems, General Relativity, Chaos and its Applications, Analytical Dynamics

Swarthmore College *Swarthmore PA*

Aug 2016–May 2020

Bachelor of Arts - Double Major with High Honors in Mathematics and Physics

GPA: 3.8

- **Coursework** (Relevant): Electrodynamics, Analytical Dynamics, Quantum Theory, Statistical Mechanics, Biophysics, Point-Set & Algebraic Topology, Analysis on Manifolds & Measure Theory, Modern Algebra II, Programming Language Theory, Algorithms

TECHNICAL PROFICIENCIES

Computer Languages

C++, Python, Julia, C, Scheme, Racket, IDL, Java, OCaml, CUDA, Bash

Mathematical Computing

Maxima, Mathematica, L^AT_EX, IDL, Matlab, R

Software & Frameworks

Linux, Pytorch, Scikit-Learn, ReactJS, Pandas, Emacs

Tooling & Build Systems

Git, Docker, Tmux, Maven, Make, CMake, Dune

Languages

Japanese & Spanish (limited working proficiency)

EXTRACURRICULAR

- Notorious textbook hoarder, including classics from Whittaker (1904), Weyl (1931), Synge & Griffith (1942), and Panofsky & Phillips (1955).
- Classically trained flutist since 2004.
- Avid climber, mainly bouldering.