Paula Neeley

Email: paula.neeley@jhuapl.edu
pneeley@andrew.cmu.edu
Web: www.paulaneeley.com

Education

2018-2021 **M.S. Logic, Computation, and Methodology**
Carnegie Mellon University, Department of Philosophy
Thesis Committee: Jeremy Avigad (Advisor), Adam Bjorndahl, Wilfried Sieg
Thesis: A Formalization of Dynamic Epistemic Logic

2014-2018 **B.S. Mathematics; Minor in Physics**
Portland State University, Department of Mathematical Sciences
Thesis Committee: J.J.P. Veerman (Advisor), Daniel Taylor-Rodriguez
Thesis: On the Uniformity of $(3/2)^n$ Modulo 1

Employment

June 2023 - Present **Software Assurance & Formal Methods Developer**
Johns Hopkins University Applied Physics Laboratory (APL)
Asymmetric Operations Sector, Cyber Concepts and Exploration (QCE-2)
Tools used: Spin Model Checker, Lean 4 Theorem Prover, C++, Ghidra, Gradle
QuestaCDC, Questa Autocheck

Oct 2021 - May 2023 **Senior I Research & Development Engineer**
Synopsys, Inc.
EDA Group, Formality
Tools used: C++, Formality, Python, Python Data Science Packages, XGBoost, Coverity

June 2021 - Aug 2021 **Applied Scientist Intern**
Amazon Web Services (AWS)
Automated Reasoning Group
Tools used: Dafny Theorem Prover

May 2020 - Dec 2020 **Technical Engineering Intern**
Synopsys, Inc.
EDA Group, Formality
Tools used: C++, Formality, Python, Python Data Science Packages, XGBoost, Coverity

Mar 2018 - July 2018 **Thermal Analysis Intern**
National Aeronautics and Space Administration (NASA)
Johnson Space Center, Engineering Design & Analysis Branch
Tools used: AutoCAD, Python

June 2017 - Aug 2017 **Formal Methods Intern**
National Aeronautics and Space Administration (NASA)
Langley Research Center, Safety Critical Avionics Systems Branch
Tools used: PVS Theorem Prover, Python

Conference Presentations

Neeley, P. (2021). "Results in Modal and Dynamic Epistemic Logic." Lean Together Workshop.

Technical Reports

Neeley, P. and Narkawicz, A., (2017). "Map Projection Induced Variations in Locations of Polygon Geofence Edges." NASA Technical Reports Server.

Intellectual Property

Neeley, P., Warner, N., Hong, A., (2018). "An Efficient Software Implementation Modeling Variable Conductance Heat Pipes." NASA New Technology Reporting System, eNTR #:1533758669.

Teaching Experience

Spring 2021 **Instructor of Record**
Carnegie Mellon University, Department of Philosophy
80-210 Logic and Proofs

Fall 2019 **Graduate Teaching Assistant**
Carnegie Mellon University, Department of Philosophy
Instructor: Simon Cullen
80-100 Introduction to Philosophy

Summer 2019 **Graduate Teaching Assistant**
Carnegie Mellon University, Department of Philosophy
Instructor: Jeremy Avigad
Summer School in Logic and Formal Epistemology

Spring 2019 **Graduate Teaching Assistant**
Carnegie Mellon University, Department of Philosophy
Instructor: Isaac Davis
80-100 Introduction to Philosophy

Graduate Coursework

(All courses taken at CMU unless otherwise noted)

80-719	Interactive Theorem Proving (Avigad)
80-711	Proof Theory (Avigad)
80-615	Modal Logic (Bjorndahl)
15-614	Bug Catching (Pfenning)
80-821	Formal Epistemology (Bjorndahl)
80-619	Formal Methods: Topological Epistemology (Kelly)
80-617	Formal Methods: Causation (Zhang)
80-605	Choices, Decisions, and Games (Seidenfeld)
80-612	Mathematical Revolutions (Sieg)
80-618	Topics in Logic: Incompleteness (Sieg)
80-600/2	Philosophy Core Seminar I & II (Harrell, Danks)

Academic Service

Fall 2019 Identified potential applicants for Philosophy of Mind and Logic tenure-track positions in the CMU Philosophy Department

Professional Development

(= invited participant)*
*(** = invited speaker)*

Jan 2021 Lean Together Workshop**

Oct 2020 Grace Hopper Celebration of Women in Computing (Virtual)

July 2020 One World Seminar Series on the Mathematics of Machine Learning (Virtual)*

Jan 2020 Lean Together Workshop*

Jan 2019 Lean Together Workshop*

June 2018 Applications of Formal Methods to Control Theory and Dynamical Systems*

June 2018 North American Summer School on Logic, Language, and Information

2018-2021 Member, Lean CMU/Pitt Working Group

2019-2020 Member, Association for Symbolic Logic

Community Involvement

2017, 2023 **Night Strike volunteer**
Under the Burnside Bridge, Portland, OR
Helped serve the needs of the homeless population in downtown Portland, Oregon.

2018 **Solar Power-Up volunteer** (sponsored by NASA)
Ed White Elementary School, El Lago, TX
Taught fifth grade students about alternate energy sources and engineering principles through the design and implementation of solar powered model cars.

2018 **Student tutor and mentor**
Native American Youth and Family Center, Portland, OR
Volunteered in the after-school Learning Center, a trauma-informed environment for Indigenous American elementary school students.