Luke Dramko

Project Management Skills

- Work with stakeholders
- Analyze costs and benefits
- Scope the project
- Build and maintain a timeline
- Thoroughness
- Enthusiastic collaborator

Programming/Technical Skills

- Machine Learning/AI: Natural Language Processing (NLP)
- Program Analysis
- Mathematics: Linear Algebra, Probability Theory, Multivariable Calculus
- Languages: `Python`, `C`, `Java`, `R`, `Scala`, `SQL`
- Framworks: `pytorch`, `numpy`, `transformers`, `peft`
- Tools: `Git`, `VSCode`, `LaTeX`, `LLVM`, `Hex-Rays`, `Ghidra`

Graduate Corsework

- Advanced Natural Language Processing
- Introduction to Machine Learning (PhD)
- Machine Learning in Production (as TA)
- Optimizing Compilers for Modern Architectures
- Empirical Methods
- Computer Science Pedagogy
- Foundations of Privacy

Service

- Reviewer of Record for ACM TOSEM
- REU Admissions Committee, 2022-2025

Fellowships

- NSF Graduate Research Fellowship
- Duane Adams Endowed Fellowship

Personal

lukedram@cs.cmu.edu
lukedramko.github.io
Pittsburgh, PA

Profile

I am a sixth year **PhD Student** and **NSF Graduate Research Fellow** interested in **machine learning**, **program analysis**, and **security** at Carnegie Mellon University. I bring to every project a commitment to hard work, an insatiable curiosity, and a desire to collaborate in order to perform high-impact, innovative research. I pride myself on my thoroughness and reliability.

Education & Experience

2020–Present
Carnegie Mellon University
PhD Student · Pittsburgh, PA
I am a sixth year PhD student solving problems at the intersection of machine learning, security, and program analysis. I am advised by Dr. Claire Le Goues.

Summer 2022
GitHub
Intern · Remote
I designed, built, and deployed a recommendation system from scratch to serve all worldwide users as a proof of concept.

2016–2020
University of North Dakota
Bachelor's Degree · Grand Forks, ND
Graduated *summa cum laude* with bachelor's degrees in Computer Science and Mathematics with a GPA of 4.0.

Summer 2019
Carnegie Mellon University
Undergraduate Researcher · Pittsburgh, PA
Designed a system to verify the correctness of communications between microservices.

Summer 2018
Boston University
Undergraduate Researcher · Boston, MA
Worked on a system to learn CO_2 flow models with real-time data.

Publications & Projects

- (Expected Submission: February 2025) *Fautless*. A proof engine to check for the absence of hallucinations in LLMs used for neural decompilation.
- *Idioms: A Simple and Effective Framework for Turbo-Charging Local Neural Decompilation with Well-Defined Types*. (Under review). **Dramko, L.**, Le Goues, C., Schwartz, E.. Submitted to NDSS, 2026
- *Fast, Fine-Grained Equivalence Checking for Neural Decompilers*. **Dramko, L.** Schwartz, E., Le Goues, C in TOSEM, 2025 link
- *Quantifying and Mitigating the Impact of Obfuscations on Machine-Learning-Based Decompilation Improvement*. **Dramko, L.**, Boloni-Turgut, D., Schwartz, E., Le Goues, C in DIMVA, 2025 link
- *A Taxonomy of C Decompiler Fidelity Issues*. **Dramko, L.,** Lacomis, J., Schwartz, E., Vasilescu, B., & Le Goues, C. in USENIX Security, 2024 link
- *DIRE and Its Data: Neural Decompiled Variable Renamings with Respect to Software Class*. **Dramko, L.**, Lacomis, J., Yin, P., Schwartz, E., Allamanis, M., Neubig, G., Vasilescu, B., & Le Goues, C. in TOSEM, 2023 link
- *Development of an open-source regional data assimilation system in PEcAn v. 1.7. 2: application to carbon cycle reanalysis across the contiguous US using SIPNET*. Dokoohaki, H., …, **Dramko, L.**, & Dietze, M. in 2022, Geoscientific Model Development link