Daniel Patterson

Northeastern University Khoury College of Computer Sciences Boston, MA

dbp@dbpmail.net

EDUCATION

Ph.D., Computer Science (expected August 2022)

Northeastern University, Boston MA

Bachelor of Science, Math and Computer Science (2014)

Brown University, Providence RI

EMPLOYMENT Northeastern University, Boston MA

2016-present

Research Assistant, Teaching Assistant

Northeastern University, Boston MA

Fall 2019

Instructor of Record

Position Development, New York, NY

2014-2016

Summer 2013

Founder / CTO of small software consulting company.

Brown University Research internship, codesigned Pyret programming language,

CaptainTeach educational platform.

AWARDS

Northeastern University Center for Advancing Teaching and Learning Through Re-

search, Future Faculty Program

Northeastern University, 2019 Khoury College Graduate Teaching Award

National Science Foundation, GRFP 2018 Honorable Mention

TEACHING EXPERIENCE Instructor of Record, Verified Compilers (CS4910), Northeastern University, Fall 2019.

Novel Course Design, Verified Compilers (CS4910), Northeastern University, Fall 2019.

Grad TA, Fundamentals of CS, Accel. (CS2500), Northeastern University, Fall 2018.

Head TA, Probability and Computation (CS155), Brown University, Spring 2013.

TA, Introduction to Probability and Computing (CS45), Brown University, Fall 2012.

STUDENTS SUPERVISED • Noble Mushtak (BS expected 2023), Northeastern University

ACADEMIC **PUBLICATIONS**

Semantic Soundness for Language Interoperability.

• Daniel Patterson, Noble Mushtak, Andrew Wagner, and Amal Ahmed. 2021

Foreign Function Typing: Semantic Type Soundness for FFIs.

• Daniel Patterson and Amal Ahmed. First ACM SIGPLAN Workshop on Gradual Typing (WGT 2020).

The Next 700 Compiler Correctness Theorems (Functional Pearl).

• Daniel Patterson and Amal Ahmed. 24th Conference on Functional Programming (ICFP 2019).

Rust Distilled: An Expressive Tower of Languages.

• Aaron Weiss, Daniel Patterson, and Amal Ahmed. ML Workshop 2018 (ML 2018).

FunTAL: Reasonably Mixing a Functional Language with Assembly.

• Daniel Patterson, Jamie Perconti, Christos Dimoulas, and Amal Ahmed. 38th Conference on Programming Language Design and Implementation (PLDI 2017).

Linking Types for Multi-Language Software: Have Your Cake and Eat It Too.

• Daniel Patterson and Amal Ahmed. 2nd Summit on Advances in Programming Languages (SNAPL 2017).

CaptainTeach: Multi-Stage, In-Flow Peer Review for Programming Assignments.

 Joe Gibbs Politz, Daniel Patterson, Kathi Fisler, and Shriram Krishnamurthi. 2014 Conference on Innovation & Technology in Computer Science Education (ITiCSE 2014).

Python: The Full Monty - A Tested Semantics for the Python Programming Language.

 Joe Gibbs Politz, Alejandro Martinez, Matthew Milano, Sumner Warren, Daniel Patterson, Junsong Li, Anand Chitipothu, and Shriram Krishnamurthi. 2013 International Conference on Object Oriented Programming Systems Languages & Applications (OOPSLA 2013).

ACADEMIC SERVICE

2022 International Conference on Object-Oriented Programming, Systems, Languages, and Applications (OOPLSA 2022)

- External Review Committee Member
- Artifact Evaluation Committee Member

24rd International Conference on Foundations of Software Science and Computation Structures (FoSSaCS 2021)

• External Reviewer

23rd International Conference on Foundations of Software Science and Computation Structures (FoSSaCS 2020)

• External Reviewer

Principles of Secure Compilation 2020 (PriSC 2020)

• Program Committee Member

40th Conference on Programming Language Design and Implementation (PLDI 2019)

• Artifact Evaluation Committee Member

46th Symposium on Principles of Programming Languages (POPL 2019).

- External Reviewer
- Artifact Evaluation Committee Member

22nd International Conference on Functional Programming (ICFP 2017).

• External Reviewer