

Steven Libby

Assistant Professor of Computer Science, Donald P. Shiley School of Engineering
University of Portland
libbys@up.edu, Shiley Hall Office 222

Current:

Assistant Professor of Computer Science, Donald P. Shiley School of Engineering, Since July 2022

Academic Appointments

Graduate Teaching Assistant, Computer Science

Portland State University, August 2013 - March 2022

Courses Taught:

Introduction to Programming and Problem Solving (CS161)

Introduction to Computer Science (CS162)

Discrete Structures I (CS250)

Discrete Structures II (CS251)

Social, Ethical, and Legal Implications of Computing (CS305)

Programming Languages (CS320)

Advanced Topics in C++ Programming (CS548)

Instructor, Computer Science

Portland State University, March 2022 - June 2022

Courses Taught:

Analysis of Algorithms (CS350)

Discrete Structures II (CS251)

Assistant Professor, Computer Science

University of Portland, August 2022 - Present

Courses Taught at University of Portland

Senior Capstone Workshop I (CS083)

Senior Capstone Workshop II (CS084)

Intro to Programming (CS203)

Data Structures (CS305)

Object Oriented Design (CS301)

Programming Languages (CS352)

Object Oriented Design Lab (CS371)

Compiler Design (CS358)

Research (CS493)

Education

George Fox University Computer Science Mathematics	2006-2010	B.S.
Portland State University Computer Science	2013-2019	M.S.
Portland State University Computer Science Thesis: Making Curry with Rice: an Optimizing Compiler for Curry Advisor: Sergio Antoy	2013-2022	Ph.D.

Research Interest

Compiler Optimizations for Functional Logic Programming Languages. Theory of Functional Logic Programming Languages.

Scholarly Work

Grants Awarded

Shiley Grant for Faculty Research and Development,
Rice Compiler Support
Funded by University of Portland, Fall 2022,
5,000

Butine Faculty Development Grant,
Presenting Rice: an Optimizing Curry Compiler.
Funded by University of Portland, Fall 2022,
1,000

Butine Faculty Development Grant,
Attending ACM SIGCSE.
Funded by University of Portland, Spring 2024,
675

Butine Faculty Development Grant,
Attending OPLSS.
Funded by University of Portland, Spring 2026,
2,000

Publications (Peer Reviewed)

At UP

“Functional Logic Program Transformations” Steven Libby and Michael Hanus
the 39th Workshop on (Constraint) Logic Programming
September 24 2025, Evora Portugal
<https://arxiv.org/abs/2601.13224>

“Unifying Hindsight and Foresight: Lazy Cost Analysis as Functional Logic Programming” Nicholas Coltharp and Steven Libby and Laura Israel and Yao Li
the 18th International Symposium on Functional and Logic Programming
May 26-27 2026, Tsukuba Japan
https://link.springer.com/chapter/10.1007/978-981-92-0184-6_5

“A Functional Logic Perspective on Indentation-Sensitive Parsing” Steven Libby
the 28th International Symposium on Practical Aspects of Declarative Languages (PADL).
January 12-13 2026, Rennes France
https://link.springer.com/chapter/10.1007/978-3-032-15981-6_8

“The Scenic Route to Deforestation” Steven Libby and Vincent Robinson
The 27th International Symposium on Practical Aspects of Declarative Languages
January 19-20 2025, Denver CO
<https://link.springer.com/book/10.1007/978-3-031-24841-2>

“An Execution Model for RICE”
Steven Libby
19th Logical and Semantic Frameworks with Applications
September 18-20 2024, Goiania Brazil

“RICE: An Optimizing Curry Compile”
Steven Libby
The 25th International Symposium on Practical Aspects of Declarative Languages
January 16-17 2023, Boston MA
<https://link.springer.com/book/10.1007/978-3-031-24841-2>

Before UP

“Making Curry with Rice: An Optimizing Compiler for Curry”
Steven Libby
Ph.D. dissertation for Portland State Univerison, 2022
https://pdxscholar.library.pdx.edu/cgi/viewcontent.cgi?article=7175&context=open_access_etds_etds

“ICurry”
Sergio Anoty and Michael Hanus and Steven Libby
Pre-Proceedings of the 27th International Workshop on Functional and Logic Programming (WFLP 2019),
September 9-13, 2019, Cottbus, Germany,
<https://arxiv.org/abs/1908.11101>

“Making Bubbling Practical”
Sergio Antoy and Steven Libby,
26th International Workshop on Functional and Logic Programming (WFLP 2018), September 6, 2018, Frankfurt am Main,
<https://arxiv.org/pdf/1808.07990>

“Proving Non-Deterministic Computations in Agda”

Sergio Antoy Michael Hanus and Steven Libby,

Electronic Proceedings in Theoretical Computer Science 234, pp. 180-195. Published: 1st January 2017,

<https://web.cecs.pdx.edu/~antoy/homepage/publications/wflp16/paper.pdf>

“Needed Computations Shortcutting Needed Steps”

Sergio Antoy, Jacob Johannsen and Steven Libby

Termgraph 2014

<http://web.cecs.pdx.edu/~antoy/homepage/publications/termgraph14/paper.pdf>

PAKCS

PAKCS is an implementation of the multi-paradigm declarative language Curry

<http://www.informatik.uni-kiel.de/~pakcs/>

Aparapi

Api for parallel java

<https://code.google.com/p/aparapi/>

Presentations (External to UP)

“A Functional Logic Perspective on Indentation-Sensitive Parsing” Steven Libby

the 28th International Symposium on Practical Aspects of Declarative Languages (PADL).

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“The Scenic Route to Deforestation” Steven Libby and Vincent Robinson

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“An Execution Model for RICE”

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“RICE: An Optimizing Curry Compiler”

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January 16-17 2023, Boston MA

“Making Bubbling Practical”

Sergio Antoy and Steven Libby,

26th International Workshop on Functional and Logic Programming (WFLP 2018), September 6, 2018, Frankfurt am Main,

“Proving Non-Deterministic Computations in Agda”

Sergio Antoy and Michael Hanus and Steven Libby

24th International Workshop on Functional and (Constraint) Logic Programming

“An Operational Semantics for Rice”
Portland State University Programming Languages department, August 2023

“RICE: An Optimizing Curry Compile”
Steven Libby
UPEAK presentation
April 28 2023, Portland OR

Invited talks (Presentations at PSU)

“Curry: Programming by Guess and Check”
Portland State University Programming Language and Verification group,
Summer 2023

“Semantics for RICE”
Portland State University Programming Language and Verification group,
Summer 2023

“Panel on Research in Programming Languages”
Portland State University Programming Languages department,
November 2023.

“Functional Logic Programming”
Portland State University Programming Language and Verification group,
Summer 2024

“Functional Logic Semantics with too many Linked Lists”
Portland State University Programming Language and Verification group,
Summer 2025

”Functional Logic Semantics with too many Linked Lists” Portland State University Programming Language and Verification group, Summer 2025

Presentations (Internal to UP)

“An Optimizing Curry Compiler”
UPEAC faculty presentation, April 2023

Student Capstone Research Projects Supervised

Caitlin Ching, Caden Deutscher, Logan Machida, Axl Martinez-Ibarra, Kai Vickers. Skanska. 2022-2023

Service to University

Core Curriculum Committee 2024-2025

Committee on Faculty Welfare 2025

Shiley School of Engineering Dean Search Committee 2025

Library Advisory Committee 2025-2026

Library Dean Search Committee 2026

Service to Profession

Session Chair, PADL Conference 2023

Member in AccessComputing group.

International Workshop on Rewriting Techniques for Program Transformations
Program Committee 2025

Reviewer for the journal of Theory and Practice of Logic Programming 2026

Service to Community

Rosenbaum Plaza
volunteer, food service

Lethally Blind
volunteer

Visually Impaired Paddlers
volunteer