

Maxwell Levatich

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Education

- Columbia University** *PhD in Computer Science* Sept 2020 – Present
- **Thesis (proposed):** “C++ Program Partitioning for Information-Flow Control”
 - Advised by: Stephen A. Edwards
- Yale University** *BS and MS in Computer Science* Sept 2016 – May 2020
- GPA: 3.67
 - **Coursework:** Software Verification, Compilers, The Hardware/Software Interface

Teaching

- COMS 4995: Parallel Functional Programming** Fall 2025
Instructor of Record *Columbia University*
- Lectured to 50 students in upper-level elective covering Haskell and its support for parallelism
 - Augmented existing syllabus with live-coding exercises and weekly short quizzes for attendance
- ENGI 1006: Introduction to Computing for Applied Scientists** Fall 2023
Head Teaching Assistant (1 of 10) *Columbia University*
- Held weekly review section with supplemental exercises
 - Designed exam questions and exam review exercises
- COMS 4995: Parallel Functional Programming** Fall 2021
Teaching Assistant and Project Advisor *Columbia University*
- COMS 4115: Programming Languages and Translators** Fall 2021
Teaching Assistant and Project Advisor *Columbia University*
- CS 112: Introduction to Computer Programming** Spring 2020
Head Teaching Assistant (2 of 12) *Yale University*
- Held weekly review section with supplemental exercises
- CS 50: Introduction to Computer Science** Fall 2019
Head Teaching Assistant (3 of 32) *Yale University*
- Held weekly review section with supplemental exercises
 - Led weekly TA meetings for a large cohort of 32 TAs
- CS 112: Introduction to Computer Programming** Spring 2019, 2018
Teaching Assistant *Yale University*
- CS 50: Introduction to Computer Science** Fall 2018, 2017
Teaching Assistant *Yale University*

Journal and Conference Publications

- Anonymous submission under review** ICSE '26
Maxwell Levatich, Stephen A. Edwards
- C Program Partitioning with Fine-Grained Security Constraints and Post-Partition Verification** MILCOM '22
Maxwell Levatich, Robert Brotzman, Benjamin Flin, Ta Chen, Rajesh Krishnan, Stephen A. Edwards

Supercharging Plant Configurations Using Z3

CPAIOR '21

Nikolaj Bjørner, *Maxwell Levatich*, Nuno P. Lopes, Andrey Rybalchenko, Chandrasekar Vuppapapati**Solving LIA* Using Approximations**

VMCAI '20

Maxwell Levatich, Nikolaj Bjørner, Ruzica Piskac, Sharon Shoham**Talks**

Using Z3 to Validate Executions of a Program Partitioner

FMCAD '21

at *Formal Methods in Computer-Aided Design Student Forum***Certifications and Honors**

Columbia CTL Teaching Development Program Certification

Spring 2025

*Foundational track - advanced track certification expected Fall 2025***Yale Student Research in Computer Science Award**

Spring 2020

*Awarded to 2 Computer Science majors in the graduating class***Yale CS50 SCAZ Award**

Fall 2018

*For “superior committment and zeal” as a Computer Science TA (3 of 32)***Service**

Student Volunteer at *Symposium on Principles of Programming Languages*

POPL '23

Student Volunteer at *Programming Language Design and Implementation*

PLDI '22

Artifact Evaluation for *Conference on Computer-Aided Verification*

CAV '18

Industry

Research Intern

Summer 2023, 2024

*Peraton**Basking Ridge, NJ*

- Implemented pointer dependency tracking for C program compartmentalization (DARPA GAPS program)
- Developed automatic state machine repair technique using Z3's fixedpoint solver (DARPA BPL program)

RiSE (Research in Software Engineering) Intern

Summer 2020, 2022

*Microsoft**Redmond, WA*

- Prototyped constraint-based automated tournament scheduling solution using Z3 for national sports client
- Optimized constraint-based production line configuration for car manufacturing client
- Extended Z3 with support for theory of Unicode strings

Kernel Development Intern

Summer 2018

*Oracle**Redwood Shores, CA*

- Backported CVE patches to older supported versions of the Oracle Linux kernel
- Created portable lightweight Docker container and web frontend for internal development tools

Software Projects

Abelongithub.com/mlevatich/Abelon 

- Turn-based tactical role-playing game in Lua with Löve2D engine
- Writing, art, animation, music my own work

Guy Battlegithub.com/name/guy-battle 

- 2D fighting game in C with SDL2 rendering and audio library
- Art, animation, music my own work