Darya Verzhbinsky

Research Interests

I am interested in generating programs through **Program Synthesis**. I am also interested in creating tools for non-programmers and programming novices by developing intelligent programming assistants.

Education

Sept '21 — **PhD Computer Science**, *University of Washington*, Seattle, Washington.
Advisor: **Ras Bodik**
Research Group: **UW PLSE**

Sept '17 – June '21 — **BS Computer Science**, *UC San Diego*, La Jolla, California.
Advisor: **Nadia Polikarpova**
Research Group: **UCSD ProgSys**

Awards / Scholarships

2021-2022	Faithful Steward Endowed Fellowship in CSE (1st year scholarship)	*UW CSE*
2021	1st place, Student Research Competition (Undergraduate)	*POPL 2021*
2019	Internship Symposium Award for Achievements in Personal & Professional Growth	*UCSD*
2019	Grace Hopper Conference Scholarship Winner	*Google*
2018	Full Scholarship Winner for Grace Hopper Conference	*UCSD Women in Computing*

Research Experience

Sept '21 – present — **Graduate Research Assistant**, *University of Washington - CSE Department*, Seattle, WA.
Advisor: **Ras Bodik**, **Amy Ko**
Research Partner: **Stefania Druga**
- Working on a Program Synthesis/HCI project for visual programming
- Building a tool to synthesize online game programs in Scratch
- Tool is written in Rosette and uses SMT solver to synthesize programs

Jan '20 – June '21 — **Undergraduate Researcher**, *UC San Diego - CSE Department*, La Jolla, CA.
Advisor: **Nadia Polikarpova**
- Worked with **Hoogle**[+] team
- Built type-guided top-down enumerative synthesis tool for fully polymorphic and higher-order programs
- Wrote synthesis tool in Haskell and built upon existing Hoogle[+] code base
- **Won 1st place** @POPL '21 Student Research Competition with 3-page abstract

Industry Experience

June '19 – Sept '19 — **Engineering Practicum Intern**, *Google*, Sunnyvale, CA.
- Worked on **KUnit** dev team, a unit testing tool for the Linux Kernel
- Improved test coverage for `kunit_tool` by 20%
- Integrated line coverage results into `kunit_tool` through Prow's presubmit tool using GCOV and LCOV
- Implemented incremental coverage as part of line coverage reporting

Graduate Classes

Fall 2021	CSE 507: Computer-Aided Reasoning for Software (Emina Torlak) **[website]**	*UW CSE*
Winter 2020	CSE 291: Program Synthesis (Nadia Polikarpova) **[website]**	*UCSD CSE*

Tools & Languages

Racket • Rosette • SMT/SAT Solvers • Haskell • C/C^{++} • Java • Python • Clojure • HTML/CSS • Latex • Vim

Submissions / Presentations

June 2020	Petsy: Polymorphic Enumerative Type-Guided Synthesis **[pdf]**	*POPL SRC '21*
June 2019	Exploring Performance of Memory Mapping **[poster]**	*UCSD CSE Research Expo*

Teaching

Sept '18 – June '21 — **Undergraduate Computer Science Tutor**, *UC San Diego - CSE Department*, La Jolla, CA.
- Tutored for: Programming Languages, Intro to Computer Science, Intro to Discrete Mathematics, and Basic Data Structures + OOD
- Managed the schedules of the tutoring staff's office hours
- Wrote and graded programming assignments/exams
- Coordinated an effort to engage struggling students with course staff

Jun '18 – Aug '18 — **Assistant Teacher**, *Girls Who Code*, Mountain View, CA.
Program: **Summer Immersion Program**
- Instructed a classroom of 20 high school girls on the basics of Computer Science
- Held college admission workshops throughout the summer for students who were incoming seniors
- Facilitated the development of several full-stack projects

Service

Fall '21	UW PAMS Mentor **[website]**	*PhD Application Mentor*
ICFP '20	Student Volunteer	*Virtual Conference*
PLDI '20	Student Volunteer	*Virtual Conference*
POPL '20	Student Volunteer	*New Orleans, LA, USA*