Shiwei Weng

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EDUCATION	Ph.D. Student in Computer Science	Baltimore, MD, USA
	Johns Hopkins University	Aug 2018 – Present
	• Advisor: Scott Smith	
	M.S.E in Computer Science	Baltimore, MD, USA
	Johns Hopkins University	Aug 2016 – Dec 2017
	B.Eng. in Software Engineering	Shanghai, China
	Fudan University	Sep 2008 – Jul 2013
	B.S. in Computer Science	Dublin, Ireland
	University College Dublin	Sep 2009 – Sep 2013
	• Dual Degree of Fudan-UCD program.	

INTERESTS   Functional Programming, Symbolic Execution, Program Analysis, Model Checking

WORK EXPERIENCE

Microsoft Research Lab, Redmond
Research Intern   Jun 2021 – Aug 2021
- Worked on Checked C, a Clang-forked extension of C with buffer/memory/casting safety
- Designed and implemented a dataflow analysis to gather pre/post-conditions at statements
- Designed and implemented an SMT-based prover to reduce false-positive compiler warnings
- Mentor: Sulekha Kulkarni

Startup Interns & Freelance   Jul 2013 – Sep 2015
- Software engineer in Miaogu Network, Inc. Ohana Global, Inc. Keniu Information, Inc.

PUBLICATIONS

Higher-order Demand-Driven Symbolic Evaluation, ICFP 2020
- Together with Zachary Palmer, Theodore Park, and Scott Smith
- A symbolic backwards execution and a derived test generation algorithm

RESEARCH PROJECTS

Symbolic Execution and Model Checking in Functional languages
- Lead the optimization and new features development
- Lead the model checking approach

PROFESSIONAL EXPERIENCE

Research Assistant
The Programming Languages Laboratory at JHU   Jun 2017 – Present

Teaching Assistant
Principles of Programming Languages, Spring 18(head)/19(head)/20/21/22
Functional Programming in Software Engineering, Fall 20/21/22

System Administrator
The Programming Languages Laboratory at JHU   Feb 2019 – Present
- Maintain lab servers for webside and DevOps

ACADEMIC EVENTS

Extended Review and Artifact Evaluation Committee for OOPSLA'23
Volunteered in SPLASH 2017, SPLASH 2018, ICFP 2020, OCaml 2020
Attended PLISS 2017, PLMW@SPLASH 2017, OPLSS 2022

OPEN SOURCE   Maintain OCaml-z3 on opam

SKILLS
Familiar with OCaml, SMT, Clang/LLVM
Experience in C++, C, Python, JavaScript, Java, Linux operations

HONORS & AWARDS

National Scholarship, Ministry of Education of the People's Republic of China   Nov 2010

1st Prize, The 13th National Olympiad in Informatics in Provinces(NOIP)   Dec 2007
China Computer Federation