Benno Stein

+44 7787 003683   London, UK
`benno.stein@gmail.com`   `bennostein.org`

EDUCATION

University of Colorado, Boulder, CO
Doctor of Philosophy, Computer Science   2017 to 2021
Advisor: Bor-Yuh Evan Chang

University of Colorado, Boulder, CO
Master of Science, Computer Science   2015 to 2017

Williams College, Williamstown, MA
Bachelor of Arts, Computer Science and Mathematics   2011-2015

EXPERIENCE (ACADEMIA)

Research Assistant   University of Colorado, Boulder
Summer 2015 - Present   Boulder, CO
Perform research under Prof. Bor-Yuh Evan Chang in the Programming Languages and Verification Group, studying program analysis and verification with a focus on incremental and demand-driven abstract interpretation.

Course Assistant/Teaching Assistant   University of Colorado, Boulder
Fall 2017, Summer 2019, Spring 2020   Boulder, CO
Ran office hours, helped design problem sets and exams, and offered one-on-one tutoring sessions in both graduate and undergraduate level Compiler Design and Programming Languages courses. As a course assistant, additionally designed and taught approximately 10 lectures per semester, in both remote and in-person formats.

Research Assistant   University of Michigan
Summer 2014   Ann Arbor, MI
Performed research under Prof. Michael Wellman in the Strategic Reasoning Group, studying machine learning-based high-frequency trading algorithms using empirical game-theoretic models.

EXPERIENCE (INDUSTRY)

Software Engineer   Meta
Feb. 2022 — present   London, UK
Working in the Continuous Verification Lab on goal-directed symbolic execution of LLVM bitcode and incremental static analysis.

Software Engineer Intern   Facebook
Fall 2019   London, UK
Worked in the static analysis tools (Infer) team, adding new abstract domains and formalizing correctness guarantees of the SLEdge symbolic executor.

Software Engineer Intern   Google
Summer 2018   Sunnyvale, CA
Worked on the open-source Error Prone static analyzer, improving the Java nullability analysis and implementing a novel nullness type inference algorithm.

Software Engineer Intern   Uber
Summer 2017   Palo Alto, CA
Built static analysis tooling to detect threading defects in functional-reactive Android applications.

CONFERENCE PUBLICATIONS

Demanded Abstract Interpretation
Benno Stein, Bor-Yuh Evan Chang, and Manu Sridharan. 2021. In *Proceedings of the ACM SIGPLAN International Conference on Programming Language Design and Implementation (PLDI).*

Static Analysis with Demand-Driven Value Refinement
Benno Stein, Benjamin Barslev Nielsen, Bor-Yuh Evan Chang, and Anders Møller. 2019. In *Proceedings of the ACM SIGPLAN International Conference on Object-*

Oriented Programming, Systems, Languages, and Applications (OOPSLA).

Safe Stream-based Programming with Refinement Types
Benno Stein, Lazaro Clapp, Manu Sridharan, and Bor-Yuh Evan Chang. 2018. In *Proceedings of the IEEE/ACM International Conference on Automated Software Engineering (ASE).*

AWARDS AND HONORS	**Ralph J. Slutz Student Excellence Award, CUB CS Dept.**	2021-2022
	Outstanding Research Award, CUB CS Dept.	2020-2021
	Distinguished Student Speaker Award, CUB CS Dept.	2018
	Outstanding Service Award, CUB CS Dept.	2017-2018
	Dean's Graduate Assistantship, CU Boulder	2015-2016
	ACM Student Research Competition, PLDI, 2nd Place	2016

SPEAKING	**ConVeY Seminar, TU Munich**	July 2022
	Dissertation Defense, CU Boulder	March 2022
	Thesis Proposal, CU Boulder	Spring 2021
	Paper and Poster Presentation, PLDI '21 (virtual)	Summer 2021
	Paper and Poster Presentation, OOPSLA '19	Fall 2019
	Paper Presentation, ASE '18	Summer 2018
	Graduate Research Forum, CU Boulder	Fall 2017
	PL & Verification Seminar, CU Boulder	Fall 2017
	Student Research Presentation, Oregon PL Summer School	Spring 2016
	ACM Student Research Competition, PLDI	Spring 2016
	Math Department Colloquium, Williams College	Fall 2014
	REU Research Forum, University of Michigan	Summer 2014
	Hudson River Undergraduate Math Conference	Spring 2013

SERVICE

Chair, PhD Student Faculty Search Committee   2016-2017
Organized and participated in student interviews for visiting faculty candidates, compiled PhD student feedback, and served as liaison to faculty search committee.

Member, Computer Science Student Advisory Committee   2013-2014
Met with visiting speakers and job candidates to the Williams computer science department and provided feedback on job candidates. Organized department meetings and social events. Elected by peers as one of two student representatives.

Peer Review
Reviewed papers and participated in committee discussions for the following venues:

- **SAS 2022**	Program Committee
- **OOPSLA 2022**	Artifact Evaluation Committee
- **OOPSLA 2022**	External Review Committee
- **CAV 2021**	Sub-reviewer
- **SAS 2019**	Artifact Evaluation Committee
- **POPL 2019**	Sub-reviewer
- **APLAS 2017**	Sub-reviewer
- **CAV 2017**	Sub-reviewer
- **SAS 2016**	Sub-reviewer