

# Ben Simner

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github.com/bensimner  
<https://2plus2a.com/>

## Rubric

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Computer Scientist and Software Engineer with a wide range of experience from tools and testing in Python, to purely-functional data structures in Haskell, down to systems programming for Arm. Interested in safety and security; especially in modelling, testing, and verifying real-world systems.

## Employment

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- October 2018 Onwards — University of Cambridge.
  - Ph.D. in Multicore Semantics. Working on formalizing system-level features of the ARMv8, Power9, and RISC-V architectures.
- August 2018–September 2018 — University of Cambridge (Intern).
  - Joined the Programming, Logic and Semantics research group working on architectural semantics.
- July–September 2017 — Microsoft Research (Intern).
  - Working as a part of the Programming Principles and Tools group on automated testing and Excel.
- 2017 — <https://greensdictofslang.com/>
  - Backend and Frontend web development.
- July–September 2016 — University of York (Intern).
  - Contributed to *Starling*, an open-source tool for automated concurrent program verification written in FSharp under the Programming Languages and System research group.
- May 2013 — Citrix (Work Experience).

## Education

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- University of Cambridge (Ph.D. in Computer Science, 2018-now).
- University of York (MEng in Computer Science, 2014-2018).
  - First-class Honours (with Distinction)
- King Edward VI School, Bury St. Edmunds (A-Level, 2012–2014)

## Publications

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- *Relaxed Virtual Memory in Armv8-A*  
**Ben Simner**, Alasdair Armstrong, Jean Pichon-Pharabod, Christopher Pulte, Richard Grisenthwaite, and Peter Sewell.  
European Symposium on Programming (ESOP 2022).
- *Isla: Integrating full-scale ISA semantics and axiomatic concurrency models*  
Alasdair Armstrong, Brian Campbell, **Ben Simner**, Christopher Pulte, and Peter Sewell.  
Computer Aided Verification (CAV 2021).
- *ARMv8-A system semantics: instruction fetch in relaxed architectures*  
**Ben Simner**, Shaked Flur, Christopher Pulte, Alasdair Armstrong, Jean Pichon-Pharabod, Luc Maranget, Peter Sewell.  
European Symposium on Programming (ESOP 2020).
- *Starling: Lightweight Concurrency Verification With Views*  
Matthew Windsor, Mike Dodds, **Ben Simner**, Matthew J Parkinson.  
Computer Aided Verification (CAV 2017).

## Projects

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**system-litmus-harness** (2017-now)

<https://github.com/rems-project/system-litmus-harness>

A microkernel for stress testing hardware.

**rufous** (2017-now)

<https://github.com/bensimner/rufous>

A Haskell datatype testing and benchmarking tool.

**speccer** (2016-2017)

<https://github.com/bensimner/speccer>

A Python property-based testing framework.