Orpheas van Rooij – Curriculum Vitae

Address	Edinburgh, UK	**Email**	orpheas.vanrooij@outlook.com
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About Me

My main research interests are in semantics of effects, category theory, separation logic, effects handlers and programming language research in general.

Education

2024- PhD in Computer Science (Ongoing) - University of Edinburgh

Topic: Algebraic Theories & Effects, programming language semantics.

2021-2024 MSc in Software Science - Radboud University

Grade: Cum laude
Thesis: A Substructural Type and Effect System
Main Courses: Type Theory & R, Category Theory, Coalgebra, Compiler Construction, Semantics and Domain Theory, Program Verification with Types & Logic.

2018-2021 BSc in Computer Science - University of Cyprus

Grade: 9.03/10 (Excellent)
Thesis: An Instrumentation Approach To Web Fuzzing

Publications

- **Affect: An Affine Type and Effect System**

  Proceedings of the ACM on Programming Languages (POPL)
  Recipient of *Distinguished Paper Award*
  Formalising a substructural (affine) type and effect system in Rocq that tracks whether continuations are one- or multi-shot for an OCaml-like language with effect handlers and mutable state.

- **webFuzz: Grey-box Fuzzing for Web Applications**

  In Proceedings of the 26th European Symposium on Research in Computer Security (ESORICS)
  Design, implementation and evaluation of webFuzz, a gray-box fuzzing prototype for discovering vulnerabilities in web applications.

Work Experience

Oct 2025 University of Edinburgh
Teaching Assistant

Development of assignment 3 for BSc course Elements of Programming Languages.

Jan 2023 - Jun 2024 Radboud University
Teaching Assistant

Assignment correcting and assisting in tutorial sessions for the BSc course Software Verification, the BSc course Complexity, and the MSc course Advanced Programming.

Mar 2021 - **Aug 2021**	Networks Research Laboratory, Dept. of Computer Science, UCY *Software Developer*
Jun 2019 - **Jul 2021**	Novatex Solutions Ltd. *Software Developer*

Professional Activities

- **SPLV 2025**

  Participant, SPLV summer school 2025

- **TUPLES 2025**

  Presenter, TUPLES student conference 2025

- **POPL 2025**

  Presenter, POPL conference, Denver, US

- **VERSEN 2024**

  Awarded (shared) 1st prize at the VERSEN MSc 2024 award, Amsterdam, NL

- **POPL 2024**

  Awarded 1st prize at the ACM Student Research Competition, London, UK

- **ESORICS 2021**

  Research Paper Presenter, Virtual Event

- **Advanced Functional Programming in Haskell**

  Participant, Utrecht Summer School 2021

Languages and Frameworks

- **Rocq, Haskell, Clean, Rust, OCaml, C, Python**
- **Iris, iTasks, TorXakis**