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RU HORLICK

I am a Computer Scientist, Software Engineer, and Environmental Activist with experience in functional programming and its mathematical foundations. I also have experience facilitating teams and coaching them to adopt self-organising practices.

Experience

- May 2018 – Sep 2019 **Senior Haskell Developer, IOHK.**
Worked in a team of four to formalise, implement, and property test ledger rules for the Cardano blockchain. Personally designed and prototyped a hard-fork combinator to allow seamless transition across major protocol updates. Also worked with Head of HR to run a trial of Holacracy, a self-organising system, in the organisation. Personally, facilitated and implemented Holacracy within the ledger team.
- Dec 2020 – Present **Haskell Developer, Stack Builders.**
Completed a three-month project to expose an API for an existing software solution. Delivered to client's satisfaction on time and on budget.
- May 2019 – Present **Organisational Development Coach, Extinction Rebellion.**
Coordinated Self-Organising Systems Team, which provided coaching and facilitation to other teams in the movement. Designed and delivered several modules in an online training series. Coordinated Strategy Stewardship team while running an inclusive and participatory strategy process for the UK movement.
- Sep 2017 – May 2018 **Lead Software Developer, Money&Co.**
Rebuilt legacy Java codebase using Haskell and Nix. Created type-safe APIs for communicating between back and frontends. Used GHCJS to compile Haskell to Javascript for frontend. Had control over software architecture and development.
- Mar – Sep 2017 **Software Development Engineer, Myrtle Software.**
Worked on compiling neural networks to FPGAs, using Haskell and Nix. Was offered a senior position, including responsibility for team productivity.

Education

- 2016 – 2017 **MEng Computer Science, University of Cambridge, Distinction.**
Thesis: Formalised the theory of Generalised Species in Homotopy Type Theory (HoTT) using Agda. Worked closely with leading researcher in the field, who offered me a research position to continue our work.
Modules: Category Theory, Multicore Semantics & Programming, Advanced Functional Programming, Distributed Games & Strategies, Interactive Formal Verification.
- 2013 – 2016 **BA Computer Science, University of Cambridge, 1st Class (81%, Rank: 8/81).**
Implemented Path ORAM, a cryptographic primitive, in OCaml to search encrypted documents. Analysed performance and security properties in a dissertation. Presented ideas to Microsoft Research Cambridge.

Other

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| Programming Languages | <ul style="list-style-type: none">○ Haskell, Rust, OCaml, Java○ Nix, Isabelle, Agda, Prolog | Tools | <ul style="list-style-type: none">○ Unix, git, NixOps○ Octave, \LaTeX |
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