

Technical Skills

Programming

Isabelle, C#, Java, HTML/CSS, JavaScript, Ruby
Haskell, Assembly Coding, Visual Basic, BIL
Python, SAGE(Python Extension)

Services / Systems

Linux OS, GitHub, Microsoft Office, BitBucket

Databases

MySQL, SQL Server, SAS

Practical Experience

- Software Development
 - Completion of Global Engineering Challenge
 - Agile development
 - Team leadership
 - Database schema Design and Development
 - Formalising Operational Semantics
 - Object-oriented programming
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PhD Computer Science, University of Sheffield (EPSRC DTP Studentship Grant)

Under the direction of Dr Andrei Popescu, formal training in Isabelle/HOL and computational semantics with aims to:

- Formalise major cryptographic protocols
 - Combine formal models for information-flow security with the formal certification of cryptographic primitives to achieve end-to-end security guarantees that combine crypto and system-level information flow security.
 - Achieve an understanding of the holistic multi-layer security guarantees that we can provide for interactive systems made available over the internet
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Publications

Relative Security: Formally Modeling and (Dis)Proving Resilience Against Semantic Optimization Vulnerabilities (37th IEEE Computer Security Foundations Symposium (CSF 2024))

Brijesh Dongol, Matt Griffin, Andrei Popescu and Jamie Wright - Accepted.

Rely-Guarantee Is Coinductive: A Proof-Centered Investigation of Inductively Approximated Coinduction (37th IEEE Computer Security Foundations Symposium (CSF 2024))

Andrei Popescu, Chelsea Edmonds and Jamie Wright - To Appear.

Archive Of Formal Proofs (AFP) Entries

A formalized programming language with speculative execution

Relative Security/More Operations on Lazy Lists

Andrei Popescu and Jamie Wright.

Secret-Directed Unwinding

Brijesh Dongol, Matt Griffin, Andrei Popescu and Jamie Wright.

Bsc (Hons) Computer Science and Mathematics w/ Year in Industry, University of Sheffield (2018 - 2022) (1st Class Honours)

- Dissertation: A formal representation of abstract two player games using Isabelle/HOL capturing properties such as winning strategies and unstoppable plans
 - Completed a SURE research project with Dr James Cranch on Computational Euclidean Geometry which aimed to capture geometric properties of maths olympiad problems
 - Developed customer-oriented interaction, and software analysis and design skills to create robust software systems for clients
 - Acquired awareness of cyber threats along with the security policies and design strategies that reduce system vulnerabilities
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Placement - Statistical Programmer I - Parexel International (July 2020 - August 2021)

- Working with a global team to prepare robust deliverables to large external clients within set deadlines
 - Taking upon team leadership responsibilities as delegated by a team leader
 - Learning and developing understanding of the SAS programming language
 - Delegation to help guide and mentor new placement students as they joined towards my leaving date
 - Creating automated self writing code for the statistical team and subsequently presenting this to the UK team
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Previous Education/Employment

- A Levels: Maths - A, Computer Science - A, History - B. Notre Dame Catholic Sixth Form College (2016-2018)
 - ABRSM Music Theory and Piano Grade 5
 - Full UK Drivers Licence
 - Lead and organised a team for Global Engineering Challenge and Engineering, You're Hired!
 - Part Time work: **KFC (07/16 – 10/17)/Bon Marche (10/17 – 06/18)/NHS Porter (06/18 – 08/24)**
 - Customer interactions, Accountability, Punctuality
 - Warehouse/stock management, working under pressure in a team environment
 - Cash handling
 - Helping vulnerable people & providing a dignified service to patients
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Personal Interests

I thoroughly enjoy playing the piano, guitar and bass guitar; I particularly enjoy composing my own pieces and have released several projects with 'Goat House Bridge', 'The Verdis', 'AIRE' alongside a solo project. I incorporated my love of music and coding to develop an application designed to teach people how to play the piano. For leisure I enjoy bouldering and playing chess, notably winning a division title for Sheffield University as the team captain.