

MADALINA I. SAS

MEng Computing, ACGI, PhD Candidate

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WORK EXPERIENCE

Freelance — *Cybersecurity consultant*

2017 - present | [Windows](#)

Supporting small business with cybersecurity, especially on their internet presence and on the Windows platform.

Netcraft — *Internet Services Developer*

2017 - 2020 | [Perl](#), [Javascript](#), [SQL](#)

Working in content filtering and automated countermeasures against phishing and malware. Running the Netcraft web server survey, collecting internet statistics. Full website redesign.

King's Clinical Trials Unit — *Clinical Software Analyst Assistant*

2014 - 2016 | [C#](#), [.NET](#), [SQL](#), [iOS](#)

Full-stack development of bespoke systems for building clinical trials, including automating the randomisation process, treatment management and user management systems, data validation and trial design, testing and evaluation of production code, industry-standard documentation and medical SOPs. Good Clinical Practice training.

Imperial College London — *Undergraduate Researcher (UROP)*

2015 - 2015 | [Program logic and proof](#), [Haskell](#)

Using complex program verification logics to prove correctness of concurrent data structures.

Google — *Software Engineering Intern*

2014 | [Java](#), [Guice](#), [Clojure JS](#)

Front-end and back-end development for user settings.

Freelance — *Designer / Developer*

2013 - 2017 | [Javascript](#), [HTML](#), [CSS](#), [Adobe Creative Suite](#)

Support start-ups and businesses with technical expertise, design and branding, or software / web development.

TEACHING EXPERIENCE

2020 - present | **Complexity & Networks** — *Lab demonstrator*

Helping students with Python-based simulations of the Oslo sandpile model and Barabasi-Albert network model.

2020 - present | **Cryptography Engineering** — *Teaching Assistant*

Participating in tutorials and creating Jupyter notebooks with practical exercises and examples of cryptographic protocols, as well as the history of cryptography.

2020 | **Net & Web Security** — *Teaching Assistant*

Answering students' questions on course content during tutorials.

LANGUAGES

Python, Haskell, Perl, C#, C++,
JavaScript, SQL, Scala

Romanian (native)

English (bilingual)

OTHER SKILLS

First Aid training, Intermediate
Ham Radio licence, Professional
degree in Photography, Philosophy

EDUCATION

- 2020 - 2024 | **Imperial College London, UK** — *Complexity Science PhD*
- 2016 - 2017 | **Imperial College London, UK** — *Computing MEng (first class, distinction)*
- 2013 - 2016 | **Imperial College London, UK** — *Computing BEng*
- 2011 - 2013 | **Theodor T. Burada Arts School, Constanta, Romania** — *Photography diploma*
- 2009 - 2013 | **Ovidius High-School, Constanta, Romania** — *Mathematics and Computer Science*

AWARDS & GRANTS

- 2020 | **Splunk Scholar** — *PhD Scholarship*
- 2018 | **SnowWall** — *HutZero finalist*
- 2017 | **SnowWall** — *Imperial College London Distinction*
- 2017 | **1st prize - InterAce Cybersecurity Challenge 2017**
- 2013 | **Computational Morality** — *Imperial College Corporate Partnership Prize*

PUBLICATIONS

Growing polarisation around climate change on social media

2021 | doi: [10.48550/arXiv.2112.12137](https://doi.org/10.48550/arXiv.2112.12137)

Max Falkenberg, Alessandro Galeazzi, Maddalena Torricelli, Niccolo Di Marco, Francesca Larosa, Madalina Sas, Amin Mekacher, Warren Pearce, Fabiana Zollo, Walter Quattrociocchi, Andrea Baronchelli

Interpretable XGBoost-based Classification of 12-lead ECG applying Information Theory measures from Neuroscience

2020 | Conference Paper: [Computing in Cardiology](#) | Publisher: [IEEE](#)

Hardik Raipal; Madalina Sas; Chris Lockwood; Rebecca Joakim; Nicholas S Peters; Max Falkenberg