Martin Ellis

Software engineer with a penetration tester's eye. Web development, R&D and DevOps, then ten years finding security flaws in other people's applications, and now building CovertSwarm's Angular testing platform and AI-agent tools that attack web apps. Mostly TypeScript, Python and Go, with a grounding in concurrent and functional programming (CSP, occam-pi, Erlang).

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martinellis.me · Kent, UK

PRIMARY	`typescript` `angular` `python` `go` `sveltekit` `aws`
TOOLS	`docker` `postgres` `github actions`
SECURITY	`owasp top 10`
EXPERIENCE	`java` `.net` `android` `c` `occam-pi` `erlang`
PARADIGMS	`functional` `concurrent` `object-oriented`

Experience

2025 – now

Software Engineer · CovertSwarm · Remote

- Part of a small team building the Angular platform behind CovertSwarm's red team and penetration testing service, supporting around 20 consultants and clients from small companies to large multinationals.
- The platform gives customers insight into their testing results, and lets consultants manage findings and produce formal reports. It runs on Postgres and Docker.
- Implementing GitHub Actions workflows to run the test suites.
- Building proof-of-concept AI-agent-based hacking tools that target web applications, focused on the OWASP Top 10, and the tooling that lets internal users run their workflows and understand what they did.

2021 – 2025

Security Consultant · CovertSwarm · Remote

- Penetration testing, mostly of web applications, as well as mobile and desktop apps.
- Supporting clients' developers with their security questions.
- Managing client relationships and running security training sessions.
- Maintaining and building helper scripts and tools for the testing team.

2021

Senior Cyber Security Consultant · MDSec · Remote

Web application penetration testing.

2015 – 2021

Senior Cyber Security Consultant · SureCloud · Remote

- Penetration testing, mostly of web applications.
- Internal network testing, including UK government work under the NCSC CHECK scheme.

2014 – 2015

Developer, R&D Team · Ideaworks · Faversham, Kent

Developing Android interfaces for home automation.

2014

Part-time DevOps · Scivisum · Canterbury, Kent

Building tools in Python to automate common, time-consuming tasks.

2009 – 2014

University of Kent · Canterbury, Kent

- **Research Associate** (2014): building reverse engineering tooling.
- **Part-time Lecturer** (2010 – 2014): seminars and terminal sessions for introductory undergraduate courses in Java, occam-pi and Erlang.
- **Web Developer** (2009 – 2010): developing websites under the kent.ac.uk domain, extending the in-house templating system, and training web publishers in the publishing tools.

2007 – 2008 **Software Developer, Placement Year** · Morgan Stanley · London
Building internal tools in .NET.

Projects

2024 – now **Beg Button** · martinellis.me/portfolio/beg-button · Rust · Raspberry Pi
A pedestrian-crossing button with a screen in it, built for our village at EMF Camp and rewritten in Rust for 2026.

2026 **SnapJoust** · snapjoust.com · SvelteKit · AWS
Photo competitions decided by head-to-head voting, with Elo-style ranking of image pairs and priority-based scheduling of pairs so every photo gets good coverage of votes.

2026 **BooMap** · boomap.martinellis.me · SvelteKit · OpenStreetMap
A Halloween map of decorated houses and spooky events around Ashford, where anyone can add their own haunt. Replaced an earlier static Hugo site that was very manual to update.

2026 **Hugo Model Shortcode** · github.com/egelmex/hugo-model-shortcode · Open source · Three.js · Hugo
A Hugo theme component for showing .stl, .3mf and .obj models in a view you can rotate.

Education

2009 – 2014 **PhD Research, Computer Science** · University of Kent
Techniques for proving correctness properties of concurrent and threaded device drivers using static analysis and modelling, with occam-pi and CSP formal verification. Not completed.

2005 – 2009 **BSc (Hons) Computer Science with a Year in Industry, First Class** · University of Kent
Specialising in comparative programming paradigms and concurrency.

Community

2012 – now **BarCamp Canterbury** · Organising team · Canterbury, Kent
Unconference organising and the occasional talk.

2010 – 2012 **TinkerSoc** · Committee Secretary · University of Kent
Kent's maker society: coding, electronics, 3D printing, amateur radio and more.