

# Dr Nicholas Cameron

Staff research engineer at Mozilla, PhD in programming language theory; professional experience with tools, compilers, graphics, browser implementation, full stack web development, Rust, C/C++, Java. I lead the Rust community dev-tools, Cargo, and IDEs teams, and I am a member of the Rust core team. 10+ years experience of software design and implementation, mentoring, team building, strategy, research, and communication.

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nrc@ncameron.org  
Christchurch, New Zealand

<https://www.ncameron.org/blog>  
<https://github.com/nrc>

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## Selected employment

**Senior Research Engineer, Staff Research Engineer**, Rust team, Mozilla. 2014 to present.

- I work on Rust tools (IDE support, Rustfmt, Cargo, Rustup, etc), the compiler, and language design. I have mentored four interns (and many engineers), coordinated our intern hiring process, and interviewed potential interns and colleagues.
- I've led and delivered several open source projects including design, implementation, project management, attracting and retaining contributors, code review, documentation, and testing.
- I'm part of the Rust core team. I lead the Rust community dev-tools, Cargo, and IDEs teams; I've built the dev-tools and IDEs teams and associated working groups, set goals and roadmaps, sought out user requirements, guided and prioritised work, run meetings, communicated tools issues to the core team, and mentored and grown team members.
- I've given several talks and tutorials on Rust at industry and academic conferences, companies, and meetups.

**Platform Engineer, Senior Platform Engineer**, Layout and Graphics teams, Mozilla. March 2012 to 2014.

- Worked on Firefox's rendering systems, from CSS to the GPU, on Windows, Linux, Android, and Firefox OS.
- 10 million line C++ code base. Performance-critical, concurrent code. I worked with and across teams.

**Post-doctoral Research Fellow**, School of Engineering and Computer Science, Victoria University of Wellington. February 2009 to February 2011.

- Investigated the theory, application, and implementation of existential and ownership types. I supervised students (BSc, MSc, and PhD) and taught four half courses (small and large classes).

**Research Assistant** (part-time), Software Systems Engineering Group, UCL, October 2004 to April 2005.

**Research Internship**, Software Systems Engineering Group, UCL, June to September, 2004.

**Programmer**, Merchant Internet/Captive Internet, London, November 2001 to May 2005.

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## Higher education

**PhD** in Computing (Programming Language Theory), Imperial College London. October 2005 to October 2008; awarded April 2009.

- “Existential Types for Variance — Java Wildcards and Ownership Types”, supervised by Professor S Drossopoulou and Dr N Yoshida.

**BSc (First class honours)** in Computer Science, University College London (UCL). October 2000 to June 2001, October 2003 to June 2005.

- Deutsche Bank prize for best performing BSc graduating student (3rd year), Deutsche Bank prize for best overall performance (2nd year), CSFB prize for best performance in practical subjects (2nd year).
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## Professional activity

I've published papers at ECOOP, OOPSLA, ESOP, and several workshops (see <https://www.ncameron.org/papers>). I've been on the program committee for RustConf, ECOOP, OOPSLA (external PC), and IWACO. I've chaired the program committee of IWACO. I've given talks or tutorials at LCA (<https://www.youtube.com/watch?v=vqavdUGKeb4>), Rustconf, academic conferences, meetups, companies, and universities.

## Interests

I'm a former member of the committee for the Lazy Seals Freediving Club. I organised training and competitions, taught new members, and coached training sessions. I've competed in freediving at a national level.

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## Skills

**Technical:** Rust, C/C++, Java, Javascript, Python, programming language design, type theory, compilers, IDE implementation (including the Language Server Protocol), browser implementation, web development (HTML, CSS, React, Ember, JQuery), GitHub API, GraphQL, OpenGL, DirectX, 2D and 3D graphics, SQL, debugging (using GDB, Visual Studio, and WinDbg), optimisation and performance, software development using Mac OS, Linux, and Windows.

**Professional:** code review, mentoring, software design, recruiting (interns) and interviewing, formal and informal written communication, conference talks and tutorials, large and small group teaching, leading productive meetings, team building, strategic planning, open source development, software engineering practices (testing, documentation, CI, version control (Git, Mercurial), issue tracking, etc.), working with remote and distributed teams.

**Hobby-level:** iOS and Swift, Android, ray tracing, network protocols, Linux server configuration.