

# Bram Geron

bram@bram.xyz | Berlin | [linkedin.com/in/bgeron](https://www.linkedin.com/in/bgeron)

I love working in environments with fluid or incomplete requirements, and enjoy collaborating to form more than the sum of our parts, and continuously deliver a product that delights users.

Besides software development, my significant experience in theoretical CS and leadership will sharpen our collective sense for when ideas from research should be used in practice (or not), and when they should, ensure our long-term success implementing them.

## Experience

- |                        |  |
|------------------------|--|
| June 2020<br>– present | <p>Privacy-conscious app startup for small group communication (<b>Rust</b>/Swift/TypeScript/WASM, app name still under NDA)</p> <ul style="list-style-type: none"><li>• Led strategy and implementation of the <b>data architecture</b>.<ul style="list-style-type: none"><li>– Background sync and offline usage makes the user experience feel premium.</li><li>– Aligns with product vision of a potential off-the-grid sync in the future.</li><li>– ORM with local cache lets developers iterate fast and mostly avoid network concerns</li></ul></li><li>• Led the transition from C++ to Rust as our backend language. Cross-trained people new to Rust.</li><li>• Conceptualized and guided the implementation of code generation for the foreign-function interface between Rust and Swift. This removed the need for cumbersome manually-written unit tests for formats.</li><li>• Championed good knowledge transfer (great commit messages, wiki articles, talks), and held others accountable towards the same. Improved CI/CD tooling so that “stuff works” almost always and people feel more confident.</li></ul> |
| 2019 – May<br>2020     | <p><b>SQL query engine</b> (Scala/Java) at Contiamo, a data integration tool for analytical queries.</p> <ul style="list-style-type: none"><li>• Led integration of our tool with BI tools like Tableau, by implementing <b>PostgreSQL's wire protocol</b>.</li><li>• Reinfused the latest research ideas into the company after attending the SIGMOD'19 conference.</li><li>• Regularly collaborated with most people in the company to make sure our APIs are useful for the consuming teams and help provide actual value for our customers.</li></ul>  |
| 2016                   | <p>Improved the code generated by <b>Chrome's</b> JIT compiler (internship at Google Munich)<br/>→ <a href="http://www.bram.xyz/cv/code">www.bram.xyz/cv/code</a></p> <ul style="list-style-type: none"><li>• Wrote new optimizations (C++) and fixed existing bugs. Helped integrate exception handling into the Turbofan optimizing compiler.</li><li>• My store-store elimination significantly reduces output code size, and improves <b>CPU instruction cache</b> hit rate at runtime.</li><li>• My contributions helped Turbofan get good enough that the old compiler could finally be retired, removing a large amount of technical debt.</li><li>• Increased everyone's understanding of what happens internally with countless usability improvements in the Javascript visualiser for the intermediate graph structures.</li></ul>  |
| 2014–2019              | <p><b>PhD</b> in theoretical computer science at University of Birmingham<br/>→ <a href="http://www.bram.xyz/thesis">www.bram.xyz/thesis</a></p> <ul style="list-style-type: none"><li>• Studied a novel form of program modularity based on coroutines / algebraic effects.</li><li>• Compared to existing approaches, my variant uses lexical scoping to categorically rule out certain categories of bugs.</li><li>• Helped teach algorithms, OCaml, and Haskell modules.</li></ul>   |
| 2000                   | <p>Primary school: wrote polling station software in Basic for school elections.<br/>2001: Rewrite in Pascal</p>   |

## Skills

<b>Languages</b>	Rust, Swift, Scala/Java, Python, SQL, TypeScript/JS, Go, C/C++, bash/fish/nushell, Haskell, OCaml, Common Lisp.  English (near-native), German (advanced), Dutch (native).
<b>Tools and techniques</b>	PostgreSQL, WebAssembly, Bazel, OpenTelemetry/Jaeger, Docker (Compose), gRPC, GitLab CI, Kubernetes, nginx, Apache, Git expert, GCP, Gherkin, PEG, OpenAPI, Linux, vscode/IntelliJ

For coding samples and more details:

<https://github.com/bgeron>

<https://bram.xyz/cv/code>

## Academic and management responsibilities

2013–2018	Improved the PhD student experience at Birmingham as part of the research student committee. <ul style="list-style-type: none"><li>• Represented the research students on teaching committee and research committee.</li><li>• Brought the students together by organising and actively promoting a number of successful social activities.</li></ul>
2010–2011	<b>President</b> of student dance society Footloose. <ul style="list-style-type: none"><li>• Made and executed policies to strengthen cohesion among members, ensure a steady flow of new members, and guarantee its long-term success.</li><li>• Represented the society towards other societies and the university, gave speeches where necessary, and held general assemblies.</li><li>• Streamlined communication between sub-teams in the society, and tactfully resolved conflicts among key members.</li></ul>
2008–2010	<b>Treasurer</b> at the student computer club in Eindhoven, “Stack”.