



Verifying Extract Method Refactoring in Rust



Matthew Britton, Alex Potanin, Sasha Pak
Australian National University

Motivation & Problem

- Rust refactoring is hard (ownership, lifetimes, effects)
- Compilation success \neq semantic equivalence
- Need trustworthy, automated refactoring

Approach & Pipeline

[Diagram Placeholder]

REM \rightarrow CHARON \rightarrow Aeneas \rightarrow Coq
Zero-annotation, IDE integration

Results & Expansion

- 10/10 cases discharged
- Avg cycle: 2s (IDE-friendly)

From Prototype to Production-Ready REM:

- Standalone CLI
- Async/await, generics, macros
- VSCode extension

Future Work:

- Unsafe code
- Concurrency
- Large-scale evaluation



DOI



VSCode



GitHub