Ben Lewis

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Senior Software Engineer

Senior software engineer with 5+ years of experience building backend and platform capabilities for optimisation and planning software. I specialise in domain modelling, internal DSL and expression system design, performance optimisation, and integration test architecture, with a track record of turning complex technical problems into reliable, scalable product capabilities. I work across architecture, implementation, rollout, and iteration, and have led initiatives that improved runtime performance, strengthened regression coverage, and enabled reuse across multiple products.

Work Experience

Senior Software Engineer

Deswik, Software

Jan 2021 - Present

- Promoted from Graduate Software Engineer to Software Engineer and then Senior Software Engineer while contributing across optimisation and surface planning products.
- Designed and delivered a reusable expression-language platform for optimisation and planning workflows, replacing fragile legacy implementations with a structured pipeline for parsing, analysis, compilation, type inference, linting, and diagnostics.
- Led end-to-end delivery of the expression platform across architecture, implementation, rollout, support, and iteration, establishing a reusable internal capability rather than a one-off feature.
- Drove adoption of the platform across multiple products through API design, documentation, and technical guidance, enabling broader reuse of core workflow logic.
- Designed and implemented integrations that enabled cost- and constraint-aware destination scheduling, helping deliver a key capability for end-to-end mine planning workflows.
- Optimised parcel-flow calculations over large multidimensional datasets by modelling dependencies as a graph, parallelising evaluation, and caching analysis results, reducing a representative client workflow from almost 2 hours to 11 seconds.
- Designed and introduced an integration testing framework and synthetic model generator that increased meaningful integration test coverage from fewer than 20 tests to more than 890, significantly improving regression protection across the product.
- Mentored 5+ engineers, led multi-engineer technical initiatives, and influenced architecture and engineering standards through design guidance and technical direction.

Sessional Academic

Queensland University of Technology, Faculties of Science and Engineering

Feb 2018 - Jul 2022

- Designed, delivered, and marked assessments, tutorials, workshops, and lectures across first- to third-year engineering, mathematics, and computing subjects.
- Supported student learning through structured teaching and facilitation, helping translate complex technical concepts into clear and practical instruction.

Learning Host Team Lead

Queensland University of Technology, Student Success Group

Feb 2018 - Jul 2019

- Led regular team briefings to communicate process changes, align colleagues, and facilitate constructive discussion.
- Trained and supported new and existing team members, and reported team progress, concerns, and operational needs to supervisors.

Education

Bachelor of Mathematics and Bachelor of Engineering (Honours)

Queensland University of Technology

Feb 2015 - Nov 2021

- Majors in Applied and Computational Mathematics, and Computer and Software Engineering
- Honours thesis topic: Exploring Parallel Periodic Distance Transform Algorithms

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Technical Focus

Languages: C#, Rust, TypeScript, SQL, PowerShell, Bash

Platforms/Frameworks: ASP.NET, React, WinForms

Data/Storage: PostgreSQL, SQLite, Parquet

DevOps/Tooling: Git, Azure DevOps, Bitbucket, Jenkins, Jira

Specialties: Domain modelling, internal DSL design, integration testing, performance optimisation