

Louis de Jager

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EDUCATION

Stellenbosch University

2021 – Present

BHons: Computer Science

- Degree Average For Computer Science: 76 %
- Notable Subjects: Web Development, Data Structures, Advanced Algorithms, Machine Learning, Vulnerability Discovery and Exploitation

Swartland High School

2016 – 2020

Matric Average: 91%, Head Boy, Dux Pupil, Provincial Rugby and Athletics

EXPERIENCE

Type Inference for Python using Static Analysis

Present

Honours project for Stellenbosch University

- Used *Abstract Syntax Trees* to statically infer types of variables, parameters and return values in Python
- Studied *Hindley-Milner* algorithm and *Lambda Calculus* for type theory
- Deep understanding of the type systems and concepts like *duck typing* and *operator overloading* in Python
- Developed *Language Server Protocol (LSP)* for an existing Python type inference tool
- Integrated LSP into Neovim and Vscode

Full Stack Developer

2022 – Present

NES Consult and Associates

- Solely developed a full stack application for tracking carbon emissions
- Implemented the backend with Node.js and MongoDB
- Developed multiple frontend clients (web, mobile, desktop) with React, Electron, Flutter
- Deployed the whole application on a AWS server using Docker and Git
- Tested and Maintained the software to date with software such as Postman

Freelance Web Development

2023 – Present

2 Websites for Local Businesses

- Designed, Developed and Deployed websites with HTML, CSS and JavaScript
- Worked closely with clients for requirement extraction and negotiations
- www.mvlliquorlawadvisor.com
- www.rightwayconstruction.co.za

Computer Support Assistant

2023 – Present

Stellenbosch University

- Assess and troubleshoot computer problems brought by students, faculty and staff
- Maintain upkeep of computers and printers across campus

PROJECTS

Anvil: Shared Note-taking | *Node.js, PostgreSQL, React, Docker*

2023

- Lead the development of a full stack web application for real-time shared markdown note-taking
- Worked with all aspects of the application: Backend, Database, Frontend, Security, Deployment
- Implemented real-time shared editing with WebSockets
- Worked in a group with Agile principles and CI/CD testing

Haskell Minesweeper | *Haskell, Bash*

2023

- Developed Minesweeper in Haskell for the terminal
- Worked with the Functional Programming paradigm

TECHNICAL SKILLS

Proficient Languages: Java, C, Python, JavaScript/TypeScript, Dart, HTML/CSS

Familiar Languages: C#, SQL, Assembly (x86), Haskell, R, Lua, Bash, PHP, Rust

Frameworks: Node.js and Express, Spring, React, Electron, Flutter, Flask, JUnit, Tailwind-CSS

Developer Tools: Linux, Git, Tmux, Vim/NeoVim, Docker, VS Code, Postman, CI/CD Testing, Eclipse

Relevant Skills: Mathematics, Abstract Mathematics, Probability Theory and Statistics