

Anthony Cerqui

Programmer

About

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Process Modelling & Simulation

Advanced

Process Simulation

Steady-State

Dynamic Modelling

Python Programming

Advanced

Data Analysis

Automation Flask

Pandas Numpy

Cloud & DevOps

Intermediate

Docker GitHub Actions

Serverless Architecture

Optimisation & Control Theory

Intermediate

Control Systems

Optimisation Algorithms

Data Analysis & Visualisation

Advanced

Large Datasets

Dashboards

Performance Insights

Rapid Exploratory Data Analysis

Languages

Summary

Engineer with experience in process modelling, simulation, and data analysis. Skilled in Python-based development, operational data analysis, and technical problem-solving. Interested in clean energy and technical innovation.

Experience

Graduate & Undergraduate Process Engineer

08/2023 - Present

Developed refinery process models and simulation tools. Analysed operational data, supported commissioning, and contributed to technical training and laboratory process development.

- Developed refinery process models and simulation tools
- Analysed operational data and quantified production loss
- Developed tailings management facility process model
- Supported commissioning and operational readiness for centrifuge installation
- Prepared and delivered technical training material
- Conducted model-driven business case analyses and laboratory work

Managing Partner

10/2022 - Present

Co-founded and co-manage a consultancy focused on system support, technical infrastructure, and workflow automation. Deliver custom development and hosting solutions for clients with engineering and IT requirements.

- Established and managed consultancy operations
- Delivered workflow automation and technical infrastructure projects
- Provided custom development and hosting for engineering clients

Asset Advisory Engineering Intern

11/2021 - 10/2022

Delivered site audits, reconciled operational data with financial records, and created CAD drawings from 3D scans. Worked independently in both technical and financial capacities.

- Performed site audits and operational/financial data reconciliation
- Produced site walkthroughs and CAD drawings using Leica BLK 360 and AutoCAD
- Conducted independent technical and financial analysis

Open Source Projects

BOM Radar Rainfall Modelling · <https://tonycerqui.blogspot.com/2025/04/bom-scraping-on-gcp.html>

01/2023 - 12/2023

Pipeline for scraping, processing, and storing spatial rainfall data from the Australian Bureau of Meteorology. Enabled estimation of water levels and flood risk using Python and open-source tools.

- Designed and implemented data pipeline for spatial rainfall modelling
- Developed image processing logic to convert radar images to rainfall rates
- Containerized and deployed for serverless operation
- Automated scheduling and CI/CD with GitHub Actions and cron-job.org
- Built minimal Flask frontend for monitoring

Well Tested

Web-based pass/fail application for the gas industry, digitizing and streamlining well compliance validation. Replaced manual processes, improving accuracy, traceability, and efficiency in compliance reporting. Collaborative venture between B&T Digital and an industry partner.

- Co-owned venture (33% via B&T Digital)
- Defined product scope, features, and business direction
- Acted as intermediary between technical and industry stakeholders

English (Native speaker)

Interests

Clean Energy Innovation

Sustainability

Energy Storage

Technology Commercialisation

- Structured profit-sharing and governance model
- Oversaw hosting, support, and deployment strategies
- Deployed lightweight web-based compliance validation tool
- Digitized recordkeeping and data retrieval for well assessments
- Enhanced accuracy and traceability in compliance reporting
- Improved operational efficiency for industry users

Education

The University of Queensland

01/2019 - 12/2024

Bachelor of Engineering (Honours), Bachelor of Business Management Chemical Engineering, Business Information Systems

- Process Modelling & Simulation
- Data Analysis with Python
- Control Theory
- Optimisation Techniques

Brisbane Boys' College

01/2013 - 12/2017

Queensland Certificate of Education STEM, Design, Technology

- Mathematics B & C
- Graphics (CAD, industrial design)
- Technology Studies
- Chemistry