

Charlotte Brandhorst-Satzkorn

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Summary

I am a passionate and driven backend developer with a strong curiosity for dev-ops and cyber security. Since leaving the world of geoscience to pursue a career as a software developer, I have reawakened a lifelong passion for technology, learning and innovation that I thought I had lost. I have an appreciation for all aspects of software engineering and strive to be a well-rounded developer. As a survivor of a life threatening illness, I apply a unique perspective and energy to all aspects of my life. I know what I want, and I want to be a *damn good* software engineer.

Projects

Showrunner

Open Source Management System for GopherCon

Contributor to Showrunner, a backend API supporting the GopherCon conference website. It supports purchasing tickets, viewing the conference agenda, applying as a presenter, sponsorship management, and much more. It is implemented in [Go](#) and [Postgres](#). The project is deployed on [Encore](#).

I have so far contributed the initial schema and API design, and am taking a central role in reviewing of other contributions. The project is still in progress.

Subscript

Makers Academy Final Engineering Project

Subscript allows users to keep track of their subscriptions and be notified, at their discretion, when renewal is due. The project was completed over two weeks. The backend was written in [Go](#) with [PostgreSQL](#) for data persistence. The frontend was written in [JavaScript](#) with [Bootstrap](#) for styling. [JSON](#) was used for communication between the frontend and backend. The project was deployed on [Heroku](#), with continuous integration handled by [Github Actions](#).

The project uses the [Open Banking API](#) via [Plaid](#) to demonstrate how a user could integrate the app with their personal banking solutions. Users are sent reminders as .ics files via the [SendGrid](#) email API.

A short presentation of the project is available [on YouTube](#).

Education

Makers Academy (August 2020 - November 2020)

Software Development Student

Makers is an intensive software development bootcamp, delivered remotely. During the course programming fundamentals are taught, including:

- Languages: Ruby, Rails, JavaScript, SQL (PostgreSQL, ActiveRecord), Go
- Testing: RSpec, Jasmine, Capybara
- Design principles: OOP, TDD, MVC, DDD
- Cloud Tech: Heroku, AWS, GCP
- Tooling: Github Actions, Travis-CI, Git
- TDD, pair programming and code reviews, focusing on clean code (DRY, SRP, RESTful APIs)
- Development driven by Agile project management principles

University of Southampton (2014 - 2019)

PhD Candidate, NERC CDT in Oil and Gas

Base and Heavy Metal Mobilisation during Hydraulic Fracturing of Black Shales

The research focused on uncovering and understanding the fluid-rock interactions and subsequent mobilisation of metals which happens during hydraulic fracturing (*fracking*) through simulated laboratory experimentation designed and conducted by myself. The results of the experiments were expected to help inform and guide environmental regulations, and best operating practices, for potential shale exploration onshore within the United Kingdom.

My PhD was funded through the first cohort of the *NERC CDT in Oil and Gas*. It delivered training by industry leaders in a variety of areas from *Petroleum Economics* to *Exploration in Challenging Environments*, among others. I withdrew from the program prematurely in 2019 due to illness.

Presentations:

University of Southampton (2015)

- *An Introduction to Hydraulic Fracturing and Subsurface Pathways for the Contamination of Groundwater Resources*

TSOP-AASP-ICCP Joint Meeting, Houston, Texas USA (2016)

- *Metal Mobilisation During Hydraulic Fracturing of the Bowland Shale, UK*

University of Portsmouth (2011-2014)

Bachelor of Science (Hons) in Environmental Science (2:1)

Acid Mine Drainage and Toxic Metal Contamination from Abandoned Mine Tailings in Adak, Northern Sweden

A self-led research project re-examining the environmental impacts from acid mine drainage caused by abandoned mine tailings a decade after the site was studied by an independent research group. The research looked to understand if the area was showing signs of entering into natural remediation, or whether it could benefit from further intervention to protect against any further deterioration to the environment.

Presentations:

University of Portsmouth (2014)

- *Acid Mine Drainage and Toxic Metal Contamination from Abandoned Mine Tailings in Adak, Northern Sweden*
– *Winner of Best Poster Presentation 2014*

Alton College (2010-2011)

Access to Higher Education: Social Sciences (2010-2011)

- 12 Distinctions, 33 Merits achieved at level 3

AS Level (2007-2008)

- Computing and Photography

Frensham Heights School (1999-2007)

- GCSEs

Experience

B.M.W Financial Services - Hook, UK (2010)

Financial Support Administrator

Working within a small team responsible for daily office duties including;

- Working with confidential client information
- Providing information and support to senior managers
- Documenting company procedures for outsourcing handover

Master Cleaners - Farnham & Haslemere, UK (2009-2010)

Shop Attendant

- Management of store during working hours
- Provided excellent customer-specific service
- Basic store accounts and money handling

Otter Nurseries - Ottery St. Mary, UK (2009)

IT Administrator

- Worked in a small team to provide effective IT solutions for a large multi- site garden centre
- Writing and preparing copy for publishing in Beautiful Gardens magazine

Interests

My personal interests include outdoor sports such as trail running, mountaineering, skiing and climbing. I enjoy reading fiction and non-fiction books, watching movies, playing computer games, listening to music of all genres and I have been a life long fan of motorsport. I continue to have a personal interest in global environmental issues and actively keep up-to-date on the latest science.