

GREGORY CHURCH

Data Scientist / Geophysicist

@ gj.church85@gmail.com
🌐 British

📍 Switzerland



PERSONAL PROFILE

A highly motivated and proactive individual with 7+ years professional experience; finishing an Earth Science doctorate in early 2021. A strong background in mathematics, statistics and programming, as well as project and people management. Ability to work collaboratively in international, cross-functional teams on multiple projects simultaneously delivering high quality results. Recently developed machine learning and data science skills to compliment my professional and academic experience. Looking to leverage my data analytical skills to take the next career step as a data scientist.

TECHNICAL SKILLS

Programming: Python, Matlab, SQL, R **Python Libraries:** pandas, Scikit-learn, NumPy, TensorFlow
Technical Areas: Maths & Statistics, Data processing, Machine Learning, Data visualisation
Other: MS Office, Bash, Linux, Windows, Mac OS, LaTeX

EXPERIENCE

Research Scientist in Earth Science / Glaciology

Swiss Federal Institute of Technology (ETH)

📅 March 2017 – Expected March 2021

📍 Zürich, Switzerland

- **Problem Solving:** Using large-scale geophysical data to analyse and gain an understanding of alpine glacier dynamics.
- **Data manipulation:** Handling big and complex data with the use of the Swiss National Supercomputing Centre with Matlab and Python.
- **Programming:** Continuous integration, continuous delivery and performing regular updates to production source code within a team environment for ground-penetrating radar signal processing (SVN & Git).
- **Optimisation:** Minimising the difference between collected field data and simulated data by using optimisation algorithms to determine glacial properties (least squares, stochastic gradient descent, Bayesian inversions).
- **Project Management:** Planning, managing and executing industrial-scale glacier field campaigns and leading teams in diverse alpine environments.
- **Public Speaking:** Written and oral communication of scientific results at international level in numerous global conferences.
- **Development:** Course instructor for glacial student fieldwork and supervision of multiple thesis projects.

Geophysics Team Leader

Petroleum Geo-Services

📅 August 2011 – January 2017

📍 London, UK

- **Leadership:** Led, managed and organised multiple international project teams (1-3 people) through simultaneous seismic data processing projects (maximum 3 projects simultaneously).
- **Data Analysis:** Performed and delegated extensive testing, quality control checks through the workflow in order to meet performance targets.
- **Project Management:** Ensured that projects met timeline targets by leading the project team weekly meeting.
- **Visualisation:** Excellent proven communication skills through regular and effective client interaction and presentations.
- **Research and Development:** Developed new data processing techniques for global company-wide implementation.
- **Financial Management:** Ensured projects met profitability targets by participating in weekly cost analysis meetings with the business controller.
- **Personal Development:** Line management for geophysicists and continuous support to help progress their careers.
- **Interpersonal:** Overseas assignments undertaken; worked offshore Angola on a seismic vessel and led the team for 6 weeks in Lagos, Nigeria and supported the processing office remotely in Nigeria.

Geophysicist

Geotrace Technologies

📅 August 2010 - August 2011

📍 Cairo, Egypt

- **Individual Performance** Offered full-time position after collaborative MSc thesis.
- **Real World Projects:** Data processing in a multicultural team running various projects simultaneously and supporting local staff in their geophysical development through technical mentoring.
- **Communication:** Frequent client interaction with international oil operators.
- **Research:** Assignment within research and development team in Houston, USA independently developing a new processing technique that was globally implemented.

EDUCATION

Doctorate of Sciences (PhD) – Earth Science

ETH Zürich

📅 March 2017 – Expected March 2021

📍 Zürich, Switzerland

Focus: Using data analysis and processing from geophysical data to investigate glacier dynamics.

M.Sc. Exploration Geophysics (Merit)

University of Leeds - Selected for NERC Scholarship

📅 Sept 2009 – June 2010

📍 Leeds, UK

Focus: Geophysical Inversion theory (optimisation), Seismic data signal processing, time series analysis

Thesis: Azimuth velocity analysis to investigate velocity anisotropy (in partner with Geotrace).

B.Sc. Mathematics (First Class) - Top 5%

University of the West of England

📅 Sept 2006 – May 2009

📍 Bristol, UK

Focus: Statistical Modelling, Numerical Analysis, Applications of Statistics, Operational Research, Linear Algebra & Calculus

Thesis: Using binary logistical regression to develop a betting strategy in the fixed odds football betting market

PUBLICATIONS

📄 Journal Articles - 3

👥 Conference Papers - 2

👥 Conference Oral Talks - 3

🆔 ORCID: <https://orcid.org/0000-0003-0114-9950>

AWARDS

🏆 **Outstanding Student Poster and PICO Award (Top 5% Students)**
2019 European Geoscience Meeting, Austria

🏆 **Swiss Snow, Ice and Permafrost Society Prize**
2019 Swiss Geoscience Meeting, Fribourg, CH

🏆 **Richard Margetts Memorial Prize for the best Mathematics Project**
2009, Bristol, UK

🏆 **Institute of Mathematics and Applications Prize Best BSc Mathematics Student**
2009, Bristol, UK

PROFESSIONAL DEVELOPMENT

- Machine Learning by Andrew Ng (Coursera)
- Python for Data Science and Machine Learning by Jose Portilla (Udemy)
- SQL Bootcamp 2020 by Jose Portilla (Udemy)
- Presentation Skills; 2 day course; Coachwise Consultants Limited
- Management and Organisational Development; 5 day course; Tranzition Consulting

LANGUAGES

English - Native proficiency

German - Intermediate

INTERESTS

Road Cycling - Member of cycling club in Basel

Running - Completed London Marathon (2014, 2019)

Cricket - Former member of cricket club in UK