LUCILLE ABLETT

London, UK

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Java • Python • R • JavaScript • HTML5 • CSS3 • ReactJS • Node.js • PostgreSQL

Software Developer with an MSc (distinction) in Spatio-Temporal Analytics and Big Data Mining from University College London. I previously worked as both a Data Scientist and a Mine Geologist, and have extensive experience in the management, modelling, analysis, and interpretation of complex geospatial datasets. Whilst I enjoyed my previous roles, I find software development to be more creatively fulfilling and would like a career that allows me to do what I do best. For my MSc, I achieved 92% for a location-based quiz Android application I created. I love to learn and am always expanding my programming abilities. Currently, I am focusing on full-stack web development, including React.js, Redux, and Node.js and building upon my existing Java knowledge. I am currently seeking London-based software development opportunities with an innovative company and the potential for rapid career advancement.

Technical Experience

Web and Software Development

- Smart Brain ReactJS application implementing Clarifai computer vision API, using Node.js, Express.js, bcrypt-nodejs, PostgreSQL, deployed on Heroku.
- Professional website creation using HTML5, CSS3, Bootstrap 4, JavaScript, and PHP, hosted on Namecheap using cPanel and WHM.
- Location-based quiz Android application, using a three-tier web architecture, comprising web (HTML, CSS, JavaScript, PHP), mobile (Java), and PostgreSQL geodatabase components.
- Restaurant billing management system using Java, with JavaFX and SceneBuilder.

Databases and Data Management

- Design and development of spatially-enabled, PostGIS, 3D mineral exploration drill tracking database.
- Collaborative design and creation of SQL mineralogical database for Sentinel Mine, Zambia.
- Management and validation of geological data using MaxGeo DataShed SQL database.

Data Science (Python & R)

- Geospatial regression modelling of mineralisation using RandomForest, SVR, and XGBoost.
- Classification of rock type from multivariate sensor data using CNN with Keras and Tensorflow.
- 3D mineralogical domain classification using K-Means and XGBoost.
- Time series analysis of material processing workflows using RandomForest.
- Space-time forecasting of London road network travel times using SVR.Deep learning for multivariate signal and time-series analysis using Keras and TensorFlow.
- Creation of Power BI dashboard visuals using R.

Python packages: *NumPy, SciPy, Pandas, GeoPandas, Matplotlib, Seaborn, Folium, Scikit-Learn, XGBoost, Keras, TensorFlow, SHAP.*

Professional Experience

Data Scientist ***Anglo American, London, UK.*** **May 2018 – September 2019**

- Development of machine learning models to extract value from technical data in Python, using scikit-learn and XGBoost.
- Collaboration with internal clients to identify and solve business use cases.
- Cloud-based model development using Azure Databricks.

Mine Geologist ***First Quantum Minerals Ltd., Zambia.*** **January 2014 – June 2016**

- Capture, validation, management, digitisation, 3D modelling, interpretation, and reporting of all geoscience data.
- Coding of macros for geological software solutions to optimise and maintain consistency in repetitive geospatial operations.
- Mentoring of graduate geologists, and training and supervision of sample collection teams.
- Communication of geological information to multidisciplinary teams and general management through regular communiqués, meetings, and daily reports.
- Leadership of geological and geophysical development projects.

Contract Geologist ***First Quantum Minerals Ltd., Zambia.*** **July 2013 – January 2014**

- Creation and implementation of geological sample collection and material tracking procedures.
- Implementation and supervision of blast hole sampling program.

Qualifications

MSc Spatio-Temporal Analytics and Big Data Mining ***University College London[1]*** **2016 – 2017**

Distinction *Awarded the Hart Prize for the most distinguished work*

MSc Project: Machine Learning for Mineral Prospectivity Mapping (77%)
In collaboration with the British Geological Survey

Comparison study of support vector regression, random forest, and extreme gradient boosted tree machine learning algorithms for regression modelling and geospatial mapping of hydrothermal mineralisation in SW England, using R.

Additional experience: Introductory Programming (63%), Web & Mobile GIS: Apps and Programming (92%), Spatial Databases (82%), Spatio-Temporal Data Mining (76%), GIS Principles & Technology (85%).

Software: RStudio, Android Studio, Eclipse, ArcGIS, QGIS, pgAdmin III, FME Data Inspector.
Tech Stack: R, Java, Python, JavaScript, HTML, CSS, PHP, SQL, PostgreSQL, PostGIS, NoSQL.

MGeol (Hons) Geology with Geophysics ***University of Leicester[2]*** **2009 – 2013**

Awarded Upper Second-Class Honours (2:1)

Volunteering Experience

Cat Care Volunteer ***Cats Protection*** **May 2019 – present**

- Supporting staff with feeding and socialising cats, cleaning accommodation, and maintaining a safe and hygienic environment within the cattery.
- Training and mentoring new volunteers.

Organiser ***Mining Sundowner*** **January 2019 – present**

- Scheduling and hosting sponsored monthly networking drinks for the mining and metals industry.
- Liaising with industry contacts to obtain sponsorship and communicating details to subscribers.
- Development and administration of website and mailing list.

Interests

Cooking, paper crafts, sewing and dressmaking, reading science fiction books, logic and 3D puzzle games, and exploring the countryside.

[1] Student Academic Representative, Department of Civil, Environmental, and Geomatic Engineering (2016 – 2017)
[2] Events Secretary, Society of Exploration Geophysicists, University of Leicester Student Chapter (2011 – 2012)