

Natalie Grefenstette

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EXPERIENCE

Apziva

AI resident

Remote

02/23-ongoing

- Worked on several machine learning and data science industry projects with the oversight of an industry professional.
- Learned key machine learning (ML) specialisations by analyzing data and developing models to predict various goals such as: predict customer satisfaction based on reviews, determine likelihood that a customer would purchase a banking product, rank candidates for a job search using natural language processing (NLP), predict whether an image contains pages of a book being flipped or not, etc.
- Explored the data, prepared it for the models and built and iterated over several models to yield the best accuracy.

Santa Fe Institute

Postdoctoral researcher

Santa Fe, NM, USA

06/19-08/22

- Developed theories and techniques to detect life in the universe, in the multidisciplinary Laboratory for Agnostic Biosignatures team funded by NASA, using computational models (Python) and ML tools (regression, PCA, neural networks, scikit)
- Built robust computational models (Python, Jupyter, Numpy, Gillespie algorithms, Monte Carlo sampling) to study signatures of evolution in large populations of polymers
- Analysed large datasets (time series analysis, data visualisation, pandas, numpy, matplotlib, seaborn) to extract key insights
- Led large scale collaborative efforts with early career researchers resulting in 2 published chapters
- Organised a successful workshop with 30+ early career attendees (budget: \$67.1k), along with multiple conference sessions at top conferences in the field
- Published 9 papers in top journals in the field, and was invited to talk and present at top conferences in the field, as well as top universities

Encelo laboratories

Advisor

London, UK

05/19-06/20

CEO and co-founder

11/17-05/19

- Led a team in the development of the business from inception through thoughtful management, financial planning, and clear communication
- Top 3% of companies selected for the Rebelbio accelerator (SOSV-backed)
- Obtained 7 letters of intent from potential clients in 2 months worth over £50k annually combined, and letters of support from top pharmaceutical and biotech companies
- Developed a deep understanding of the drug development process and its pitfalls
- Wrote all marketing and communication material including website, white papers, and fundraising materials

Deep Science Ventures

Entrepreneur in residence

London, UK

06/17-10/17

- Top 3% of candidates selected for the program
- Developed a deep understanding of the biotech ecosystem
- Worked on solving difficult technical challenges in multidisciplinary projects while developing a strong understanding of dozens of technology research areas (including health, energy and climate)
- Learned about building a business from a position of fulfilling a need or solving a problem observed in the world and disrupting the established system

Earth Life Science Institute

Visiting scholar

Tokyo, JP

05/17-06/17

- Successfully applied new programming skills in a research environment leading to a paper in a top journal in the field
- Developed a program to analyse hypothetical earlier sets of canonical amino acids compared to potentially available non-canonical alpha amino acids (Python)
- Studied the incorporation of amino acids in the genetic code using cheminformatics approaches (JChem, GenerateMD and CxCalc)

PROJECTS

MonReader

- Developed an advanced CNN algorithm to assist visually impaired individuals with document scanning independently.
- Enhanced the baseline model through optimization techniques to achieve exceptional accuracy, delivering precise results with a 98% accuracy rate.

Potential Talents

- Devised a state-of-the-art ML pipeline aimed at reducing the cost of talent acquisition by efficiently screening and identifying highly skilled candidates.
- Developed a powerful ranking algorithm to create a shortlist of applicants using natural language processing and learn-to-rank algorithms, streamlining the screening process and increasing efficiency.

Term Deposit Marketing

- Constructed a deep learning system to identify the most suitable prospective customers from a highly imbalanced dataset.
- Achieved a high accuracy (87%), providing the sales team with valuable insights into critical client characteristics and increasing the chances of successful sales.

Happy Customer

- Identified the root cause of customer dissatisfaction and devised a strategic plan to extend the customer lifecycle, resulting in improved customer retention.
- Leveraged multiple ML algorithms to redesign the user experience and service by pinpointing of critical factors contributing to customer satisfaction

EDUCATION

University College London

PhD, Chemistry

London, UK

University College London

BSc, Biochemistry

London, UK

2012

- Graduated with honors in the top 5% - Dean's list

SKILLS & INTERESTS

Skills: Python, Pandas, Numpy, Sci-kit, Data visualization, Matplotlib, Seaborn, Machine learning, NLP, CNN, Data Processing, Data analysis, R, LATEX, Cheminformatics, French (fluent), Spanish (intermediate)

Interests: Jazz, singing, wood working, DIY, cooking, digital design, squash