Kevin Damian Prinsloo

Ph.D. Neuroscience, Data Scientist

CONTACT

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EDUCATION

Ph.D. Cog. Neuroscience
University of Glasgow, Centre of Neuroimaging
2023-2017

M.Sc. Neuroscience
University of York, York Neuroimaging & York Diagnostic Imaging
2012-2013

B.Sc. (Hons) Psychology
Bournemouth University, Department of Psychology & Computing
2009-2012

SKILLS

Product Development, Product Management, Agile, Jira, GitHub
Data Science & MLOps
Azure Platform

Data Science:
Traditional AI, Supervised and Unsupervised learning.

Tools & Packages:
Python (Pandas, Numpy, SQL, TensorFlow, Scikit-learn, PyTorch, Keras, SciPy), R (novice). PowerBI, SQL (novice), Signal Processing. Azure Cognitive Services. Flaks, JavaScript, CSS, Power Automate

Natural Language Processing (NLP):
OpenAI, GPT, HuggingFace, Pinecone, LangChain, NLTK, SpaCy

Soft Skills:
Leadership, Management, Presenting, Teamwork

Profile

As a Data Science Consultant with a Ph.D. in Cognitive Neuroscience, I blend academic insight with practical expertise in AI and data science. My experience spans from neuroimaging research at the University of Glasgow to spearheading AI initiatives at Blenheim Chalcot, particularly in edtech, legal, and healthcare sectors. Proficient in Python, Azure, NLP, and ML, I excel in developing AI solutions that are innovative, ethical, and user centric. My strong foundation in neuroscience enhances my approach to data science, enabling me to create technologically advanced solutions that are intuitively aligned with human needs. My skills in project management and stakeholder engagement, underpinned by a rigorous academic background, ensure the delivery of impactful and scientifically grounded data-driven solutions.

Experience

Data Science Consultant

Blenheim Chalcot
Dec 2022 – Present

My role as data science consultant is to explore innovative uses of data and artificial intelligence to address common public sector challenges, both with clients and independently within the team. Develop additional products as add-ons ranging from DS bootcamps to isolated analytics software solutions.

- Spearheading diverse AI and GenAI projects across Blenheim Chalcot's portfolio, notably in Edtech (AI Assessment platform development), Legal (AI-driven legal document evaluation), and Healthcare (NHS process automation).
- Proficient in designing and managing AI and data science solutions, leveraging tools such as MS Azure Platform, Azure Cognitive Services, GPT-4, and NLP, with a foundational knowledge in software engineering.
- Leading project mobilisation with a strong focus on information governance and data ethics across multiple data science initiatives.
- Architecting and deploying Machine Learning pipelines using Azure data platform technologies including Databricks, Python, Docker, PowerBI, and cloud-based databases. Including SQL and Vector databases.
- Expert in identifying and implementing data science strategies to automate processes, enhance data delivery, and deepen client insights, evidenced by multiple successful projects.
- Demonstrated excellence in stakeholder management, fostering robust relationships with clients, data scientists, and key stakeholders through effective communication and workshop facilitation.
- Managing and delivering strategic aspects of concurrent data science projects, utilising MS Azure DevOps for project and product management.

Data Science Fellow

Pivago & RSM UK
Oct 2022 – Dec 2022

Pivago data science fellowship, Science to Data Science (S2DS): a competitive programme for analytical PhD graduates aimed at facilitating the transition from academia to industry, with the completion of a real-life data science project in collaboration with an industry partner – RSM UK.

- Experimental design, data collection, data wrangling, and advanced computational modelling.

Volunteering

I volunteered as a demonstrator at the Trinity College Dublin Summer School Programme in the Biomedical Engineering. My role was to introduce the labs existing work by means of demonstrating the correction biotechnology in hearing aid developments and language processing capabilities. As well as provide hands on experience in coding experiments and analysing data using Matlab and in-house custom software.

Interests

- Cycling
- Climbing
- I once strummed a guitar. Looking to do that again.
- Creating AI applications

- Developed an automated ML pipeline, using NLP processing, for classifying tax and financial data.
- The pipeline was designed in Amazon EC2 WorkSpaces and had modularity for deployment in an Alteryx workflow that aims to address various tax and financial classification problems.

Postdoctoral Research Fellow

University of Rochester. USA

Feb 2020 – Oct 2022

My role in the Dept. of Neuroscience involves research, neuroimaging database management and curation, data cleaning and analyses using computational modelling of multidimensional data, project supervision, and dissemination of results in forms of stakeholders, publications, and conferences. This includes:

- Experimental design, data collection, data wrangling, and advanced computational modelling
- Neuroimaging technologist, EEG, iEEG, MEG
- Signal processing, Multivariate analyses, Monte Carlo non-parametric permutation statistics, Machine Learning decoding Speech Processing
- Project based research in Mobile Brain & Body Imaging Lab
- Using wearable technology (Oculus VR), and physiological sensor recordings.
- Project based research in Mobile Brain & Body Imaging Lab using wearable technology (Oculus VR), and physiological sensor recordings.
- Experience healthcare, lab management, participant recruitment and hardware maintenance.
- Database construction and multisite curation of large (TB+) multidimensional neuroimaging data
- Successfully optimised machine learning applications to model neurodegeneration in RETT and Batten disease. Including project collaboration with patients with Parkinson's disease.

Paper (Preprint)

Postdoctoral Research Associate

University of Rochester. USA

May 2018 – Mar 2020

My role in the Dept. of Biomedical Engineering involved four core aspects: Research, Data collection using state of the art biomedical imagine technologies, Data cleaning and analyses using computational modelling of multidimensional data, and dissemination of results in forms of stakeholders, publications, conferences, and teaching. This includes:

- Successfully demonstrated evidence to support the hypothesis that the brain uses top-down predictive coding to improve modeling of linguistic features of incoming complex natural speech using ML applications.
- Improved existing models descripting hierarchical processing of complex natural language processing from low-level acoustic input in human neuroimaging data using various models based on GloVe, NLP, Mutual Information and Entropy.
- Extensive Experience of neuroimaging data collection, data cleaning and analyses using complex computational modelling and statistics based on machine learning approaches and statistics of model parameters using bootstrapping and non-parametric Monte Carlo permutation statistics.
- Used various predictive analytics such as speech-to-text algorithms

- and Montreal Forced Phoneme Alignment to parametrise speech into its constituent units to be used as multi-dimensional decoders to test predictive linguistic coding in the brain.
- Being proficient in various technologies: Matlab, Excel, Git / Github, Bash, Signal processing.
- Intermediate: Python. || Novice: SQL, Tableau, Cloud services (novice in AWS).

Paper Journal of Neuroscience

Senior Clinical Associate

Neuromod Devices. Ireland

Dec 2016 – May 2018

My role at Neuromod, a medical device clinical startup company, was to coordinate and lead one branch of the company's pilot project, which covers various core responsibilities from:

- Experimental design, data collection, data cleaning, and advanced computational modeling using ML.
- Clinical trial pilot protocols (EEG), AB-testing, testflows. clinical hardware design and maintenance,
- Successfully demonstrated the feasibility of using a decoder to explore a self-tuning hearing aid.
- Developed an algorithm to model objective audiometry in hearing loss patients, laying down the foundation.
- Managed streamlined collaboration across multidimensional teams, including software engineers, design, a clinical ENT and audiologist and research staff.
- Responsible for data collection, data cleaning and analyses, and dissemination of results to stakeholders and collaborators.

PhD Cognitive Neuroscience

University of Glasgow. UK

Oct 2013 – Dec 2016

My PhD used a combination of brain imaging, psychophysics and machine learning to build predictive models of the brain. I collected large (TB+) datasets from high density neuroimaging machines (fMRI, MEG) and used various data cleaning (principal component analysis) and machine learning technique.

Site Lead: MEG UK Partnership

Alongside my PhD, I was the lead site collaborator on the UK's first national database of MEG neuroimaging data. My role included:

- Maintained effective communication and database collaboration with external members across eight UK universities.
- Lead on data collection, database curation and ensured partnership protocols in collecting and analysing high density neuroimaging machines (fMRI, MEG) where adhered to.
- Processed large (TB+) multidimensional data and applied invers modelling techniques (LCMV and DICS beamforming) and computational modelling using machine learning applications (SVMs, MVPA, LDA, Mutual Information) to assess neural sensory functioning in humans.
- Demonstrated skills in technologies: Matlab, Excel, Git / Github,