



John Lee

Founder at Python AI Solutions

Email: johnlee@pythonaisolutions.com | Phone: +353-89-615-5467 | Website: <https://pythonaisolutions.com> |

Location: Dublin, County Dublin

Website: Python AI Solutions | GitHub: leej3 | LinkedIn: john-lee

Data and open source software enthusiast with a background in Neuroscience. With a PhD in Neuroscience, I have spent more than a decade working in Data Science, DevOps, Software Engineering, and AI systems, primarily utilising Python. My goal is to leverage AI ethically to enhance data collection, processing, and interpretation in both corporate and governmental contexts.

WORK EXPERIENCE

Director at Python AI Solutions Ltd.

2023-08-01 - Present

Consulting and product development in AI, data, and software; privacy-first, accessibility-first approach.

- Built pipelines for extracting scientific transparency metrics from public sources.
- Contributed improvements to PyTorch-Ignite.
- Deployed a React web application and led frontend delivery with modern tooling.
- Collaborated with NIH researchers on data workflows and reproducible pipelines.
- Created and open-sourced 'No Strings Resume'--a privacy-first resume builder (no accounts, no tracking).

Software Engineer at Quansight

2021-01-01 - 2023-12-31

Engineering across the scientific Python ecosystem, web applications, and ML pipelines.

- Improved CI systems for scikit-image and NumPy.
- Developed an ML pipeline for time-series analysis.
- Built web apps for social media and HR needs.
- Created a UI for an AI chatbot.

Dev ops at National Institute of Mental Health (NIMH), NIH

2018-11-01 - 2020-11-30

Working on the AFNI team, focusing on build/testing/packaging/CI/containerization/enabling cloud computing. Improved software distribution and reproducibility for a global scientific community.

- Led Docker-based packaging and distribution for scientific pipelines.
- Adopted NiPype and containerization best practices for HPC workflows.

Python Instructor at Foundation for Advanced Education in the Sciences (FAES)

2019-09-01 - 2020-12-31

Taught a 14-week course, 'Introduction to Python'.

Data Scientist at National Institute of Mental Health (NIMH), NIH

2016-06-01 - 2018-11-30

Worked with various community software tools for downloading human neuroimaging datasets, releasing newly gathered ones into the wild, and executing analysis pipelines at scale in aid of extracting insight into mental health. Developed MRI data processing pipelines and applied advanced AI techniques.

- Implemented variational autoencoders and Bayesian neural networks.
- Explored federated learning for privacy-preserving analysis.

Data Analyst Intern at Virginia Hospital Center

2016-01-01 - 2016-06-30

Assembled a hospital wide report for a national survey of performance metrics and salaries.

Doctoral Researcher at Trinity College Institute of Neuroscience (TCIN)

2010-01-01 - 2015-12-31

Researched neural network changes in Drosophila using DSP, microscopy, and electrophysiology.

EDUCATION

PhD in Neurophysiology (study of learning and memory)

[Trinity College Dublin](#)

2010-01-01 - 2015-12-31

Specialization in Data Science

[Johns Hopkins University \(Coursera\)](#)

- 2015-12-31

Diploma in Statistics

[Trinity College Dublin](#)

2011-01-01 - 2012-12-31

BA (Mod.) in Natural Science (Neuroscience)

[Trinity College Dublin](#)

- 2009-12-31

SKILLS

AI

LLM integration, Prompt engineering, Ethical AI, Computer vision, NLP, Retrieval Augmented Generation

Machine Learning

scikit-learn, TensorFlow, PyTorch, PyTorch-Ignite, Time-series ML

Dashboards & Web Apps

React, Flask, FastAPI, Panel, Streamlit

Data Engineering

Pandas, Jupyter, Dask, Prefect, Dagster, Nipype, SLURM, Docker, Kubernetes, SQLAlchemy, Datalad

Cloud & DevOps

AWS, Azure, GCP, GitHub Actions, CI/CD, Containers (Docker, Singularity)

Frontend Tooling

Tailwind CSS, shadcn/ui, Vite, Playwright, Vitest, Figma

Automation & Orchestration

Python, Bash, Git, Cron, CMake, Conda

Collaboration & Best Practices

Open-source, Code review, Reproducible research, Accessibility-first design

Programming Languages

Python, R, C, MATLAB

Scientific Computing

Experimental Design, Statistical Modeling, Neurophysiology, Data Visualization, LaTeX, Pandoc, Inkscape

PROJECTS

No Strings Resume

Privacy-first, open-source resume builder with local-only data and multi-format export.

Technologies: Resume, Accessibility, Privacy, React, Tailwind

Chronos HVAC app

Frontend subcontracting, Terraform setup, hardware refactor, and frontend management.

NIH Clinical-center MRI facility scheduler app deployment

Reworked configuration management, added tests, containerized CI, and added security/auth.

HR summary app

Dashboard using prompt engineering to summarize HR survey results with ChatGPT.

Center for Multimodal Neuroimaging website migration

Reimplemented CMN site as a static website.

PyTorch-Ignite contributions

Improved pytest failure recovery and refactored API for deprecations/backwards compatibility.

Justice Innovation Lab

Guided improvements in Dagster pipelines, cloud infra, and data management.

Neurodevelopmental & Behavioral Phenotyping Service

Reviewed open-source solutions for radiological reports and guided clinical pipeline processes.

Open Science Metrics pipeline

Pipeline to populate MongoDB with open science metrics; deployed a Panel app.

ETL pipeline & JS prototype app

Managed external contractor, integrated with Open Science Metrics project.

AWARDS

NIMH Director's Award - National Institute of Mental Health

2019-01-01

Significant achievement

UREKA Award - Science Foundation Ireland (SFI)

2008-01-01

12-week summer research program

Trinity College Scholar - Trinity College Dublin

2007-01-01

Prestigious undergraduate academic award

LANGUAGES

English (Native)

French (Elementary)