Max Gamill, Ph.D.

Python | Git | CI / CD

Contact

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Max Gamill Max-Gamill

Profile

Software developer with 5 years experience collaboratively building, testing, and enhancing research software from computer vision pipelines to Django web apps. These software packages total over 37,000 downloads and won the 2023 Sheffield FAIR software award. Motivated to drive research further by a proven track record of assisting researchers with HPC issues and developing FAIR research software.

Key Skills and Software

Production Software Development. FAIR Software Development | End-to-end Python Pipelines | Milestone Planning | Version Control | Documentation (Sphinx, GitHub Pages) | Containerisation (Docker) | Deployment.

CI/CD & DevOps. Git Collaboration (1.2k+ commits, 106 PR's, 72 issues in 2025) | GitHub Actions (Test Automation, Tagged Releases) | PyTest (Unit, Integration, System Tests) | Linting | Hosting Town Halls | Leading Multi-disciplinary Teams | User Training.

Machine & Deep Learning. Scikit-Learn | Clustering (kNN, DBSCAN, GMM) | TensorFlow | Data Version Control | Albumentations | Segmentation Models (U-Net) | Object Detection Models (YOLOv3, Mask-RCNN) | Generative Models (CVAE).

High Performance Computing. Unix | Environment Management | SLURM and PBS Schedulers | MPI and Multiprocessing Parallelisation | HPC User Support.

Key Achievements

- Awarded the 2023 Sheffield FAIR software development award.
- Invited speaker at the BIRS DNA topology conference in Canada for my novel image analysis pipeline.
- First author Nature Communications journal paper.
- Achieved the highest client satisfaction score of 79% within the Cognos Analytics Support team at IBM.

Professional Experience

Imperial College London | HPC and RSE Experience Programme | **2025 - Present** |

- Created a Cookiecutter UV project template. Built interactive Django projects supporting environmental and energy research data, and team resource management.
- Resolved bash scripting, resource availability, software and parallel processing issues on HPC systems.

University of Sheffield | Postgraduate Researcher | **2021 - 2025** |

- Developed classical and machine learning pipelines for microscopy image analysis with 37,000+ downloads; *TopoStats*, *AFMReader*, and *Napari-AFMReader*.
- Built a custom DL + ML pipeline to cluster abstract DNA shapes achieving 60% accuracy.
- Trained U-Net models reducing misclassified touching objects and reducing measurement error by ∼30%.
- Created synthetic data for transfer learning of YOLOv3 and Mask R-CNN models to classify DNA shapes.
- Presented at international conferences (CBIAS, BIRS, I2K) via seminars and software workshops.

IBM | Cognos Analytics Technical Support Analyst | **2018 - 2019** |

- Managed 10-20 concurrent cases to resolve 230+ cases spanning errors, defects, and load balancing issues.
- Authored 36 technical documents and 11 corrections.
- Configured minimal test case environments on Unix and Microsoft operating systems.
- Root cause analysis through the investigation of log files.

Education

University of Sheffield | Doctorate of Philosophy in Computational Biophysics | **2021 - 2025** |

University of Leeds | Master of Physics | First Class | **2016 - 2021** |

- DL model mapped receptor localisations improved on a classical model by ∼30% in object density and noise.