Bella Nicholson

📍 Amsterdam, Netherlands   🔗 bellanich.github.io   in bella-nicholson   ⌨ bellanich   🌐 American

Resourceful Machine Learning Engineer with 3+ years of experience in a diverse set of organizations, ranging from tech startups and scaleups to an establish tech company. A life-long learner with a passion for optimizing ML models for real-world applications on resource-constrained devices. Excited about the intersection between engineering and AI research.

EXPERIENCE

Machine Learning Engineer // **Brenntag** // 📅 Nov 2023 – Present   📍 Amsterdam, Netherlands

At the world's leading chemical distributor, I deployed and maintained ML products across 70+ countries. Thus far, I've:
- Migrated a virtual AI assistant (earning €30+ million in annual revenue) to a **more cost-effective and secure AWS** platform
- Developed a **real-time notification system** to monitor critical ML jobs and model metrics, improving system visibility
- Standardized quality controls across 15+ ML project components through the creation of a CLI package prototype

Machine Learning Consultant // **Deloitte** // 📅 Sept 2021 – Oct 2023   📍 Amsterdam, Netherlands

As a contracted ML engineer, I optimized and implemented ML solutions for diverse clients, delivering:
- Increased system robustness of a **Dutch e-classified ads platform**'s "For You" page, systematically introduced **ML Engineering best practices**
- Launched a self-paced, ML-focused coding training website to standardize and improve code quality across Deloitte NL
- Centralized large-scale model storage, experiment tracking across various environments for a German steel conglomerate

Machine Learning Research Intern // **Crunchr** // 📅 Jan 2020 – Aug 2020   📍 Amsterdam, Netherlands

At a people analytics platform, I conducted graph-based representation learning research for the development of ML products:
- Built a proof of concept, one-off **representation learning** process to encode relational database entity information
- Demonstrated approach validity by applying deep neural networks to downstream classification tasks on process outputs

Computer Vision Intern // **Cubelizer** // 📅 June 2017 – July 2017   📍 Madrid, Spain

As part of a Google-backed edge computer vision startup, I improved customer detection by 12% for retail space optimization:
- Developed a video stream-based **object detection** method in compliance with EU privacy regulations
- Applied image processing and classical machine learning techniques to low-resolution images

PROJECTS

Pocket Multi-Modal Large Language Model
- Deployed a **custom embedded, vision-text foundation model** across various iOS devices (laptop, phone, tablet)
- Extended an existing large language model hardware-optimization framework to quantize a new multi-modal model
- Documented results and process in a 4-part blog post series

Python Machine Learning Template
- Automated a comprehensive Python ML project setup process with a project template and 3 simple bash commands
- Enabled streamlined project creation with pre-built tests, an automated build process, and auto-generated documentation

EDUCATION

Master of Science, Artificial Intelligence
🏛 **University of Amsterdam**   🎓 Cum laude (8.0/10.0)   📅 Sept 2018 – Dec 2020   📍 Amsterdam, Netherlands
- Courses on AI, including Deep Learning, Computer Vision, Natural Language Processing, Information Retrieval, and Reinforcement Learning
- Thesis on "Interpretable Representation Learning for Relational Data" in collaboration with Crunchr

Bachelor of Science, Biomedical Engineering
🏛 **The College of New Jersey**   🎓 Magna cum laude (3.8/4.0)   📅 Sept 2014 – May 2018   📍 Ewing, New Jersey, USA

SKILLS

Programming languages & tooling	MLOps platforms	ML frameworks
Python, Git (2016-present), Bash (2018-present), Terraform (2023-present), SQL (2019-present), Docker (2022-present)	Amazon Web Services (2021-present), Google Cloud Platform (2022-present), Databricks (2022-present)	PyTorch (2018-present), PySpark (2022-present), FastAPI (2021-present), Tensorflow (2021-2022), Keras (2022)

English ▰▰▱ 100%   Spanish ▰▰▱ 75%   German ▰▰▱ 60%   Russian ▰▰▱ 50%