DEWI BATISTA

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PERSONAL SUMMARY

An experienced and highly motivated master's student in Applied Mathematics, specialising in Statistics and Machine Learning. I have hands-on experience with implementing deep generative probabilistic models in Python and have served as a teaching assistant for bachelor's and master's level machine learning and cybersecurity courses.

Currently seeking an internship as the remaining component of my master's in which I can apply my skills in machine learning to real-world problems. For this, my experience in both teaching and leadership roles has prepared me to work independently and collaboratively in dynamic environments.

EDUCATION

MSc Applied Mathematics: Statistics and Machine Learning 8.4 average
University of Groningen, The Netherlands **Sep 2023 – Present**

Courses focused primarily on machine learning with additional training in statistical modelling and consulting. This included a successful statistical consulting project with the Netherlands Forensic Institute (NFI). All machine learning projects made use of contemporary deep learning architectures.

My thesis involved the implementation of probabilistic circuits: a young class of deep generative probabilistic models. I applied these models to image generation and anomaly detection using a novel approach of learning with a hybrid discriminative and generative training objective.

Python was used for implementation (found in my GitHub repo) with related tools:

- PyTorch Lightning, Matplotib, Numpy and Pandas
- A high performance compute cluster (for training and inference)
- A Linux environment, Bash scripting, Git and SSH

BSc Mathematics 7.8 average
University of Groningen, The Netherlands **Sep 2017 – Jun 2021**

In my final year of study, I attained an average of 8.1 minoring in cryptography. The final quarter of the academic year consisted of writing a thesis on cryptographically efficient and secure elliptic curves.

For my thesis, I studied the various factors that affect the efficiency of elliptic curve cryptosystems for fixed levels of security. I then implemented such cryptosystems in Python to reinforce a number of theoretical results.

LANGUAGES AND TECHNICAL SKILLS

Spoken languages:

- **English**: Native
- **Welsh**: Native
- **Dutch**: A1 (learning)
- **Swedish**: A1

Programming languages (and related tools):

- **Python**: Experienced
- **MATLAB**: Experienced
- **Bash, Docker & Git**: Experienced
- **SQL**: Familiar

WORK EXPERIENCE

Teaching Assistant - University of Groningen **2023 – 2025 (during MSc)**

Advanced Machine Learning (for MSc Artificial Intelligence)	*Nov 2024 – Feb 2025*
Linear Algebra (for BSc Life Science and Technology)	*Sep – Nov 2024*
Neural Networks (for BSc Artificial Intelligence)	*Apr – Jul & Sep – Nov 2024*
Linear Algebra (for BSc Computer Science)	*Apr – Jul 2024*
Advanced Topics in Security and Privacy (for MSc Computer Science)	*Sep – Nov 2023*

- Led weekly tutorials, computer labs, and consultation sessions for typically 30 students at a time
- Graded assignments and exams; invigilated midterm and final exams
- Provided individual support to students and clarified course material

EMIS Officer (full-time) - Coleg y Cymoedd, Wales **Jul 2021 – Aug 2023**

- Managed back-end administrative records related to student tuition fees, attendance and timetabling
- Coordinated logistics for both in-person and online exams
- Organised arrangements for students with special accommodation requirements
- Liaised with academic staff, support personnel, students and parents to ensure reliable communication

Teaching Assistant - University of Groningen **2019 – 2020 (during BSc)**

Calculus (for BSc Chemistry)	*Sep – Nov 2020*
Linear Algebra (for BSc Industrial Engineering and Management)	*Nov 2019 – Feb 2020*
Linear Algebra (for BSc Chemical Engineering)	*Sep – Nov 2019*
Multivariable Calculus (for BSc Artificial Intelligence)	*Apr – Jul 2019*

ADDITIONAL SKILLS AND INTERESTS

- Co-authored a paper submitted to the NSS-SocialSec 2024 academic conference in security and privacy. Preprint available at `https://arxiv.org/pdf/2403.15208.pdf`
- Working on a document of my own machine learning explainers: `github.com/dewi-batista/machine-learning-explainers`
- Big fan of musicals. My favourites are The Phantom of the Opera and The Rocky Horror Picture Show

REFERENCES

Marco Grzegorczyk
Professor, University of Groningen
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Angela Lavender
Head of MIS, Coleg y Cymoedd
angela.lavender@cymoedd.ac.uk

Eligible to work visa-free within the EU and UK.