BORNBERG | CURRICULUM VITAE

Name	Christina Elena Bornberg
Birth	19.07.1997, Bregenz, Austria
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Languages I	German (native), English (C1)
Languages II	Python (PyTorch, TF, sk-learn), C, C++, Java, Matlab, Assembler, VHDL, VAL3

Summary

Bachelor's in electronics, master's in medical image analysis. Interested in interpretability of modular networks for retinal disease understanding. Advocate of side projects. Work and study experience abroad.

Education

2021 – 2023 **MEDICAL IMAGING AND APPLICATIONS** *MSc*

- Erasmus Mundus Joint Master's scholar in France (uB), Italy (Unicas) and Spain (UdG)

2016 – 2021 **ELECTRONICS** *BSc*

- Bachelors at UAS Technikum Wien, Austria (Semester 1,2,6)
- Erasmus+ exchange year at Loughborough University, UK (Semester 3,4)
- Semester abroad at the University of Southampton, UK (Semester 5)

2011 - 2016 **IT AND MEDIA TECHNOLOGY** *High school diploma*

- Technical high school - HTL Wien 3 Rennweg, Austria

Experience

2022 - 2024 **DEEP LEARNING FOR OPHTHALMOLOGY** *Master's thesis and research officer*

- Singapore Eye Research Institute
- Master's Thesis: Domain adaptation for OCT images (PyTorch)
- Project: Vascular component analysis of the RNFL in circumpapilary scans
- Project: Interpretability of modular convolutional networks (PyTorch)

Summer 2021 **DEEP LEARNING FOR FETOSCOPY** *Summer intern (8 weeks)*

- University College London (UCL)
- Project: Vessel segmentation of fetoscopy image data (PyTorch)

2020 - 2021 **DEEP LEARNING FOR OPHTHALMOLOGY** *Undergrad Researcher (9 months)*

- Medical University of Vienna (MUW)
- Project: Classification of fluorescein angiography images (PyTorch, Pydicom)

2020 **IMAGE PROCESSING FOR CELL BIOLOGY** *Bachelor's thesis (5 months)*

- Austrian Research Institute (OFI)
- Bachelor's thesis: Segmentation of microscopy images with different CV libraries (OpenCV, OpenIMAJ, Matlab Image Processing Toolbox)
- Project: ANOVA of medical device packaging (scikit-learn))

OTHER *Internships and Volounteering*

- TU Darmstadt (2023), cataract surgery phase recognition
- SkillDisplay (2017-2020), TYPO3 Editor, blogging, social media
- Alpen-Adria University Klagenfurt (4 weeks – 2015), Embedded Systems
- A1 Telekom Austria (4 weeks – 2014), IT Services
- Austrian Red Cross Youth, First aid, Disaster relief team, tutoring (2011-2022)

Side Projects

Since 2023	**DatascEYEnce**	Outreach project

• Interviews with researchers on their deep learning for ophthalmology work - published monthly in the RSIP Vision magazine

Since 2023	**Senv Team**	Co-lead

• Climate data analysis hobby research group
• Project: Correlation of algae bloom and El Niño-Southern Oscillation

2020-2023	**Conex Research**	Co-lead

• Space mission design hobby research group
• Project: Arcanum Mission proposal to Neptune and Triton
• Project: Astraeus Mission proposal to Saturn and Titan

2018-2019	**Loughborough Space Society**	Electronics team

• Model rocket engine (Arduino Due)

Conferences

2022	**MICCAI - DART WORKSHOP**	Best paper award

• SISSI: Seamless Iterative Semi-Supervised Correction of Imperfect Labels in Microscopy Images (Unicas)

2022	**CRAS - IMAGE SEGMENTATION SESSION**	Oral Presentation

• Semi-supervised Placental Vessel Segmentation with Majority Voting for Pseudo-label Updating (UCL)

2021	**IAC - SPACE INFRASTRUCTURE**	Best Interactive Poster

• Concept of Operations for a Neptune System Mission (Conex Research)

2020	**MICCAI - LABELS WORKSHOP**	Poster and presentation

• Training data preparation with computer vision algorithms for a Mask R-CNN (UAS, OFI)

Courses

Certificates

• GAMP 5 seminar
• GCP certificate
• Hubspot academy – inbound marketing certified
• TYPO3 CMS Certified Editor
• Project Manager IPMA Level D certificate

Summer schools

• Denmark SDU Summer School (Deep Learning, Python): 2019
• Romania SSIMA (MedTech, Python): 2019, 2022
• ESA Alpbach Summer School (Geophysics using CubeSats): 2019
• Tallinn Summer School (Storytelling and Illustration): 2019

Hackathons

• BR41N.IO (Machine learning for BCI, MATLAB)
• CCHack (Sustainability, RaspberryPi)
• Vienna Techstars Startup Weekend Women