

# Max Van Puyvelde

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## EDUCATION

### Master of Science in Bioinformatics | Ghent University

2022 - Present

- Research at Stanford University School of Medicine
- Minor in Computer Science, additional Mathematics coursework

### Bachelor of Science in Biomedical Sciences | Ghent University

2019 - 2023

- Thesis: The development of cerebral organoids from stem cells using bioreactors.

## WORK EXPERIENCE

### Visiting Researcher | Stanford University – Stanford, CA

Jan. 2025 - Present

- Researched physics-simulated lung motion to enhance tumor segmentation in CT imaging.
- Trained a multimodal ViT-LLaMA foundation model on 2M+ captioned medical images.
- Led a glioma-focused foundation model project using MAEs and ViTs for embedding extraction.
- Advising a healthtech startup on business strategy, MVP development, and go-to-market.

### AI Engineer | XY.ai Labs – Palo Alto, CA

Jan. 2025 - Present

- Fine-tuned SotA LLMs (Gemma, Mistral) with LoRA for edge deployment in health insurance.
- Built a RAG pipeline to improve claim assistance, error correction, and user interaction.
- Developed a foundation model on sleep data from medical-grade devices.

### ML Research Scientist | Stealth Startup – Ghent, Belgium

Jul. 2024 - Jan. 2025

- Conducted applied research on segmentation, classification, and representation learning using CNNs, Vision Transformers, and other deep learning models in computer vision.
- Designed and implemented production-ready computer vision pipelines, integrating training workflows, statistical validation, and cloud-based deployment systems.

### Bioinformatics Intern | Galapagos – Mechelen, Belgium

Jul. 2024 - Aug. 2024

- Built a cancer subtyping pipeline on pathway-enriched transcriptomics and unsupervised learning.
- Identified novel disease-associated subgroups, aiding target discovery efforts in oncology R&D.
- Integrated findings into drug programs and presented results to experts and senior leadership.

### Software Engineer Intern | BioLizard – Ghent, Belgium

Jul. 2023 - Sept. 2023

- Developed a toolset for neoantigen prediction using ML models with integrated database.
- Built both a user-friendly GUI and versatile CLI to support researchers and lab professionals.
- Presented findings and software capabilities to internal and external stakeholders.

## EXTRACURRICULAR ACTIVITIES

### Data Consultant | Everest Analytics – Ghent, Belgium

Jan. 2024 - Jun. 2024

- Volunteered to support Red Cross (non-profit) through data-driven campaign optimization.
- Developed a BI dashboard to provide insights into demographics and engagement patterns.

### Representative Roles | Ghent University

2022 - Present

- IT Committee: Oversaw security initiatives, HPC operations, and BYOD policies.
- Bioinformatics Program: Managed student applications and curriculum development.

### Finalist at Open Sea Lab Hackathon | EMODnet

2023

- Developed a windfarm placement analysis tool with proprietary data for the European Commission.

## SKILLS

- **Programming & Libraries:** Python, R, SQL, Bash, MATLAB, OpenCV, Numpy, Pandas, Matplotlib, Seaborn
- **ML & Modeling:** PyTorch, TensorFlow, sklearn, Hugging Face, CNNs, ViTs, MAE, LoRA, RAG, Transformers
- **Tools & Cloud:** Git, Docker, Google Cloud, Weights & Biases, Streamlit, Power BI, Linux, Slurm, Conda
- **Bioinformatics:** Bioconductor, BioPython, GSEA, spatial, bulk & scRNA-seq, Seurat, DESeq2, STAR
- **Languages:** Dutch (Native), English (Full Professional), French (Elementary)