Davi Klitz

720-576-8493 — davi.klitz@columbia.edu — linkedin.com/in/davi-klitz

Education

- **Columbia University, Fu Foundation School of Engineering and Applied Science** New York, NY
  B.S. Computer Science, Pre-Med Track *Aug 2025 – May 2029*
  - **Relevant Coursework:**
    General Chemistry I;
    Intro to Mechanics & Thermodynamics (Physics I);
    Calculus II;
    Intro to Computer Science & Programming in Java.
  - **Activities and societies:**
    Engineers Without Borders;
    Columbia University Formula SAE.
- **Ecole Internationale Le Verseau** Wavre, Belgium
  High School Diploma, Advanced Sciences and Mathematics *Aug 2019 – May 2025*

Research Experience

- **Undergraduate Researcher** Sep 2025 – Present
  Columbia University Irving Medical Center — Laboratory of AI & Biomedical Science *New York, NY*
  - Conduct research at the intersection of machine learning and neurodegenerative disease, focusing on identifying biologically distinct subtypes of Alzheimer's disease using multimodal neuroimaging and genetic data.
  - Developing diffusion-based generative models building on prior GAN frameworks (Smile-GAN, Surreal-GAN, Gene-SGAN) to improve disease subtype discovery and clustering stability.
  - Design and optimize loss functions for clustering, disentanglement, and latent priors to extract clinically meaningful and biologically interpretable disease patterns.
  - Analyze large-scale biomedical datasets using Python, PyTorch, NumPy, and Pandas; interpret results in collaboration with clinicians and researchers to support precision diagnostics.
  - Additionally developing a deep learning "Aging Eye Clock" to predict biological age by extracting microstructural biomarkers from retinal OCT images.

Selected Projects

- **Deep Learning CNN for MRI Tumor Classification** 2025
  PyTorch, ResNet-18
  - Built a convolutional neural network for brain tumor detection from MRI scans achieving 96 percent accuracy.
  - Implemented normalization, data augmentation, and regularization techniques.
- **Machine Learning Model for Autism Screening** 2024 – 2025
  Python, Scikit-learn
  - Developed a supervised ML model to classify autism spectrum disorder using standardized behavioral questionnaires.
  - Collaborated with clinician to ensure interpretability and clinical relevance.

Leadership and Entrepreneurship

- **Co-Founder, Head of Technology and Marketing** Aug 2023 – Jul 2025
  FlyHigh Enterprise *Belgium*
  - Co-founded a sustainable startup repurposing recycled hot air balloon materials.
  - Led technical development and marketing strategy; generated over 13000 USD in revenue.
  - Placed second out of 450 teams in the Belgian National Entrepreneurship Competition.
- **Head of Research** Sep 2024 – Jun 2025
  European Youth Ambassadors Program
  - Led research initiatives and policy discussions promoting European civic engagement.
  - Helped organize a fundraiser for the Restos du Cœur, a charity that provides hot meals to those in need, raising over 2300 USD.
- **Head of the European People's Party** Aug 2024 – Apr 2025
  Model European Parliament
  - Oversaw the largest European committee during the International Model European Parlement debate conference in Holland.
- **Head of Delegation, General Assembly I** Oct 2024 – Mar 2025
  The Hague International Model United Nations (THIMUN) Foundation
  - Elected as main submitter

Licenses & Certifications

- **Basic Life Support (BLS)** — American Red Cross Oct 2025 – Oct 2027
- **Machine Learning: Introduction with Regression** — Codecademy
- **Machine Learning: K-Nearest Neighbors** — Codecademy
- **Learn Python 3** — Codecademy
- **Getting Started with Python for Data Science** — Codecademy

Honors and Awards

- Duke of Edinburgh International Award
- Belgium LJE National Entrepreneurship Competition, Second Place
- Wallonia Entrepreneurship Award
- Two Time Model European Parliament Best Delegation Award

Technical Skills

- Programming: Python, Java, C, C++, SQL, JavaScript
- Machine Learning: PyTorch, TensorFlow, Scikit-learn, NumPy, Pandas
- Tools: Git, Docker, Linux, GCP, VS Code, PyCharm, Jupyter

Languages

- English (Native)
- French (Fluent)