BOLOTNIKOV VIACHESLAV

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INTRODUCTION

MSc Bioengineering graduate from EPFL with 3+ years of practical experience across research labs and clinical settings. My training bridges biology, engineering, and data — with a strong focus on translational research, diagnostics, and regulated workflows. I thrive in multidisciplinary teams and am driven by real-world impact in healthcare.

EDUCATION

Master of Science in Bioengineering 2023 – 2025
École Polytechnique Fédérale de Lausanne (EPFL)
Specialization in molecular and cellular engineering, bioinformatics, and regulatory affairs (GMP, medical devices).

Bachelor of Science in Bioengineering 2019 – 2023
École Polytechnique Fédérale de Lausanne (EPFL)
Third year completed as an academic exchange student at Politecnico di Torino (Italy).

PROFESSIONAL EXPERIENCE

Observation Internship, Émile Roux Hospital Center, Le Puy-en-Velay (France) Sept. 2025
Immersion in the operating theatre with nurses, anesthesiologists, and surgeons. Observation of procedures and care coordination. Gained insight into clinical needs and how innovation can support hospital practice.

Research Assistant, EPFL, Lausanne (Switzerland) Feb 2024 – Aug. 2024
Worked in Prof. Constam's lab (UPCDA). Studied the **tumor microenvironment** and the role of Perlecan/Activin-A in melanoma under the supervision of PhD student Olga Egorova. Transitioned from a supervised research course to a paid position.

Intern, Critical Care Research Group (CCRG), Brisbane (Australia) July 2023 – Sept. 2023
Joined a translational research unit conducting cardiopulmonary device testing in large-animal models under near-clinical conditions. Participated in **preclinical ECMO studies**, supporting data collection, setup logistics, and compliance with **ethical and Good Clinical Practice (GCP)-aligned protocols**. Developed electronic control systems for pumps and valves in a mock circulatory loop simulating various cardiac conditions.

Teaching Assistant, EPFL, Lausanne (Switzerland) Sep. 2021 – Feb. 2022, Sep. 2023 – Feb. 2024
Supervised first-year students in mechanical physics. Led exercise sessions and prepared mock exams.

PROJECTS

- **Master's Thesis (6months)**: design of bispecific SNAP-tag fusion proteins targeting mesothelin and EGFR for cervical cancer, conducted in Prof. Stefan Barth's lab (University of Cape Town, South Africa). Project combining cloning, protein expression, and bioinformatics analyses. **Grade: 5.75/6**

- Study of **serine protease** gene families involved in immune regulation in *Drosophila*, in Prof. Bruno Lemaitre's lab. Created CRISPR mutants, conducted survival and gene expression assays. (4months)
- Development of **Medica-Fast**, an AI-based rapid diagnosis assistant for the general public (multidisciplinary project).
- Design of an **AI dashboard for anesthesiology residents** (Anesthesio.AI), integrating voice recognition (Whisper API) and intelligent case triage.

TECHNICAL AND SCIENTIFIC SKILLS

Laboratory Skills	Cell culture (2D, co-culture), RNA extraction, RT-qPCR, Genotyping, PCR, Protein expression and purification (ÄKTA), Western Blot, ELISA, FACS, Microscopy (confocal, fluorescence), Tissue staining, Molecular cloning, shRNA, CRISPR, Drosophila genetics. Certified biosafety level P2/P3.
Data and Clinical Tools	Python, R (visualization, biostatistics), Advanced Excel, CRF/eCRF basics, Electronic lab notebooks, Prism, Microsoft 365 suite.
Programming	Python (NumPy, Pandas), R, Matlab/Simulink, Arduino, basic C++.
Languages	French, English, Russian (fluent); Italian (conversational)