MANUEL MEKKATTU

MSC BIOMEDICAL ENGINEERING | BSC PHYSICS

PROFESSIONAL SUMMARY

I am a skilled scientist with background in physics. My research expertise extends across diverse scientific fields, these include theoretical modeling, machine learning and hands-on experience in engineering and design.

EDUCATION

Sep 2021 - Sep 2023	Master's in Biomedical Engineering, ETH Zurich, Switzerland (Major: Bioelectronics) GPA: 5.77 / 6 (graduated with honors)
Sep 2018 - Sep 2021	Bachelor's in Physics, ETH Zurich, Switzerland GPA: 5.51 / 6
Aug 2014 - June 2018	Bilingual Matura (German-English), Gymnasium Muttenz, Switzerland GPA: 5.85 / 6 Ranked 1st out of 158 students

WORK EXPERIENCE

PhD Student at Soft Robotics Lab

ETH Zurich | Apr 2024 - present (Research Assistant from Nov 23 - Mar 24)

Research in computational models for biohybrid robotics, integrating first-principle methods and AI to advance the design of cutting-edge living robots.

Teaching Assistant in Computer Science

ETH Zurich | Sep 2019 - Jan 2023

Teaching basic programming concepts in C++ to first year students, correcting weekly exercises and providing feedback, supervising exams.

Basketball Referee

Basel | Aug 2016 - Sep 2022

Officiating Basketball games, communication in English, German and French.

PROJECTS

Seeing Through Blood: An Infrared Laser Imaging Tool for Enhanced Visualization During Vascular and Cardiac Surgery

Master Thesis at Harvard Medical School, Brigham and Women's Hospital

Division of Cardiac Surgery | Mar 2023 - Aug 2023 | Grade: 6 / 6

Laser Physics · Design · Hematology · Surgical Navigation

Automated real-time lesion detection in total body images using public dermoscopic datasets

Semester Thesis at University Hospital Zurich

Department of Radiation Oncology | Sep 2022 - Feb 2023 | Grade: 5.75 / 6

Machine Learning · Synthetic Data · Computer Vision · Dermatology

Modeling and analysis of acute ovine pressure data during bolus infusions

Semester Thesis at ETH Zurich

Product Development Group Zurich | Mar 2022 - Jun 2022 | Grade: 6 / 6

Theoretical Modeling · Biofluid Dynamics · Clinical Data Analysis

Tumour tracking beam data optimization for lung cancer proton therapy

Semester Thesis at Paul Scherrer Institute

Center for Proton Therapy | Mar 2021 - Jul 2021 | ungraded

Medical Physics · Radiation Oncology · Treatment Planning

CONTACT

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in linkedin.com/in/manuelmekkattu

IT-SKILLS

Python ●●●●●
Matlab ●●●●●
MS Office ●●●●●
C++ ●●●●●
Java ●●●●○
Swift ●●●●○
CAD ●●●○○

LANGUAGE SKILLS

German — native
English — written and spoken fluently
French — written and spoken well
Malayalam — written and spoken well

AWARDS AND HONORS

Brigham Research Excellence Award
Award for outstanding contributions to research at Brigham and Women's Hospital (1000 USD), 2023

Zeno-Karl-Schindler Foundation Grant
Grant for Master Thesis abroad (9490 CHF), 2023

Heyning-Roelli Stiftung Grant
Grant for Master Thesis abroad (2000 CHF), 2023

Swiss-European Mobility Programme Scholarship
Grant for Master Thesis abroad (3000 CHF), 2023

Laureate Glemser Stiftung for future Excellency
Foundation that supports high school graduates who have demonstrated their academic abilities as the best of their class at young age, 2018

Basler Maturapreis der Novartis
Award for outstanding curricular and extracurricular achievements (4000 CHF), Novartis, 2018

Kantonaler Maturandenpreis
Certificate of being amongst the top Matura graduates, Gymnasium Muttenz, 2018