FOUED BENIDIR

SEEKING 6 MONTHS INTERNSHIP STARTING SPRING 2025

CONTACT

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EDUCATION

2022-2025 • Master of Engineering major Biomedical — *ESIGELEC - Rouen, FRANCE* — *GPA 3.26 BEST RANK 22/245*

2020-2022 • Integrated scientific preparatory class — *ESIGELEC - Rouen, FRANCE*

2020 • Scientific Baccalaureate in Physics and Chemistry — *Lycée Saint Jean Baptiste de la Salle Rouen*

PROFESSIONAL AND EDUCATIONAL EXPERIENCE

Chief Project – Implantable Inertial Sensor

October 2024 – February 2025 | Collaboration with a start-up and a ENT surgeon | First Prize Winner of Med'Ing Hack 2024 edition

- Development of an Implantable Movement Tracking System for Motor Function Restoration
- State-of-art using Google Scholar
- Co-authored functional specs with stakeholders : method agile
- Conducted patent searches.
- Created technical architecture; ensured ISO 13485, ISO 14971, and CE compliance.
- Applied IEC 62304, IEC 60601, and IEC 62366 standards.

Research Project – Segmentation of surgical gesture using JIGSAWS datasets

November 2024 – January 2025 | Supervisor : Dr. Cavard | First author of a research paper

- State-of-art of segmentation tools and research using deep learning.
- Code developpement with Python and PyTorch, Keras, Matplotlib libraries.
- Manipulation of robotic tools (price : 30k euros) simulating surgical gesture.
- Conducted statistical analysis and authored LaTeX reports on OverLeaf.

Research Internship – TransRad Team, MR-IQ Project, Luxembourg Institute of Health (LIH)

July – August 2024 | Supervisor : Dr. Keunen | Co-author of a research paper, publication expected in 2025

- Collected, transformed, and formatted medical images (MRI, PET, XRAY) into datasets (DICOM, MRD) using Python.
- Applied image degradation techniques (blur, contrast, motion artifacts, noise) via image processing algorithms in Jupyter Notebook.
- Developed a Google Form and PowerPoint for expert evaluation of 600 degraded MRI cases using Non-Referenced Image Quality Assessment (NR-iQA).
- Conducted statistical analysis and authored LaTeX reports on OverLeaf.
- Contributed to research for an upcoming publication.

School Chief Project – Bionic Arm

April – June 2024

- Understanding and organization of work around the specifications
- Anatomical work and understanding of the hand mechanism
- Design of Mechanical hand using SolidWork
- State-of-Art of the existing prototypes and design
- Signal processing using EEG
- PCB design using Eagle following specifications , research of componants
- Report and Github repository for futur working groups .

SKILLS

Physics, mathematics (algebra, analysis) and engineering science

IT

- Programming Languages: Python, MATLAB, C, Java, LaTex
- *A*rtificial intelligence, Machine learning, Deep Learning, Neural Networks (Stanford and Deeplearning.ai Certification)
- Knowledge in Computer Vision
- PyTorch, Keras, Sickit-Learn, Numpy, Pandas, OpenCV
- Operating Systems: Linux, Winows
- Software:
  - Simulation: MATLAB, SIMULINK
  - Coding IDEs: Visual Studio, Jupyter Notebook, CCS
  - CAD: SolidWorks

Office Automation

- Word, Excel, PowerPoint
- French: Native language
- English: B2-C1 level (TOEIC 850)
- Spanish: B1-B2 level

Electronics

- OrCAD, Eagle, KiCAD, designing and rooting hardware devices
- Knowledge of European electronic compliance standards: ISO 13485, ISO 14971:2019, IEC 62304, IEC 60601, IEC 62366, CE.

Project Management and Leadership

- Project leader on sevral school projects
- President of A.S.F.T 76 association
- Team management, project coordination, and budget management
- RACI model, Gantt Chart

(Project Management Google Certification in course of aquisition)

Soft Skills

- Teamwork
- Team leadership
- Organizational skills
- Strong intellectual curiosity and open-mindedness
- Diligent
- Autonomous
- Self Learner

INTRESTS

Sports (Team and Individual)

- Football: 8 years at club level, served as team captain.
- Judo: Practiced for 12 years.
- Boxing: Engaged for 1 year.

Scientific and Diverse Interests

- Technology: Enthusiastic about new technologies; pursuing certifications on Coursera.
- Competitive Mind: Winner of Med'Ing Hack 2024, an engineering competition with 10 projects.
- Continuous Learning: Active in reading scientific literature and the latest research, keep informed on diverse topics, including technology, finance, and law.
- Music: Passionate musician; play guitar and mandolin.

Personal Initiatives

- Leadership: President of the A.S.F.T 76 association, created to enable students from diverse backgrounds to practice football.
- Innovation: Developed an Android health application to calculate BMI (Body Mass Index), currently working on personal time on AI algorithm for cancer detection and undetected bones fractures
- Travel Enthusiast: Passionate about exploring new cultures, with visits to Italy, Spain, Germany, Luxembourg, Belgium, France, England, Algeria, and Tunisia.