



MAHER SHEIKHI ABOUMASOUDI

CLINICAL ENGINEER & MEDICAL TECHNOLOGY EXPERT

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SKILLS

- Python
- MATLAB
- C
- LabVIEW
- Generative AI
- Machine Learning
- Git
- SQL
- PowerShell
- Medical Device Software Standards

EDUCATION

01/2020 - 01/2022

Technical University of Berlin (TU Berlin)

Berlin, Germany

M.Sc.: Electrical Engineering

01/2011 - 01/2017

Azad University, Isfahan

Isfahan, Iran

B.Sc.: Electrical Engineering

LANGUAGES

Persian (Farsi) Native Speaker

German C1

Professional (C1)

English C1

Professional (C1)

PROFESSIONAL PROFILE

Clinical Engineer and certified Medical Device Advisor (under § 83 MPDG) specializing in neurotechnology. Experienced in developing AI-powered real-time BCI pipelines (Charité) and medical technology for implantable systems. Passionate about improving patients' quality of life through neurotechnological innovation.

PROFESSIONAL EXPERIENCE

01/2025 - Present

Clinical Engineer / Medical Device Engineer

MED-EL | Munich

- **Signal Processing:** Programmed highly complex cochlear and middle ear implant systems using advanced digital signal processing methods and coding strategies with our proprietary in-house software (C#).
- **System Validation:** Performed critical intraoperative system measurements and real-time validations in the operating room to ensure the functionality of medical devices during complex surgical procedures.
- **Quality & Documentation:** Documented clinical data in strict compliance with international medical device safety standards and established a continuous feedback loop directly to the Research & Development (R&D) department.
- **Technical Support & Stakeholder Management:** Provided expert-level technical support to surgeons and audiologists during initial configurations, follow-up appointments, and active surgeries.
- **Clinical Workshops & Training:** Conducted interactive workshops and training sessions for medical professionals to ensure the correct, optimal, and proper use of our medical products.

01/2023 - 12/2024

Development Engineer

Bertrandt / BMW Group | Munich

- **Process Verification & Reporting:** Successfully managed system validation pipelines and independently prepared norm-compliant type-approval test reports to ensure audit readiness.
- **Agile Project Coordination:** Led validation workflows using Scrum and Kanban methodologies to foster cross-functional alignment and timely release of development goals.
- **System Integration:** Programmed and integrated complex software safety subsystems across various vehicle components.

07/2022 - 12/2022

Master's Thesis - Software Development

Arthrex GmbH | Munich

- **Data Analysis & Scripting:** Developed a Python-based graphical user interface (GUI) to optimize the statistical data evaluation of surgical instrument test benches.
- **Automation & Accuracy:** Implemented machine learning algorithms for automated error detection, leading to a significant improvement in traceability and measurement accuracy.

01/2022 - 06/2022

Intern - SW/HW Development

Fresenius Medical Care | Schweinfurt

- **Lifecycle Planning:** Supported early project planning, risk assessment, and the creation of the documentation structure for life-sustaining dialysis products.
- **Cross-Functional Collaboration:** Facilitated user story workshops to bridge technical development capabilities with the clinical expectations of end-users within a Scrum framework.

08/2021 - 12/2021

Research Assistant - Brain-Computer Interface (BCI)

Clinical Neurotechnology Lab, Charité | Berlin

- **Complex Biosignal Pipelines:** Set up AI-powered BCI system pipelines with Neurotype for the real-time validation and processing of neurological datasets (EEG, MEG, EMG).
- **Scientific Scripting:** Programmed scripts for analytical visualization and data processing using Python (NumPy, MNE, scikit-learn).

03/2014 - 08/2017

Electrical Engineer

Farzanegan Faranoor | Isfahan

- Automated specialized metrological testing and visualization platforms using LabVIEW and MATLAB to improve workflow quality.

PERSONAL PROJECTS

1. NeuroScan AI ([Link](#))

Brain Tumor Detection System - **Python** · **Flask** · **Claude Vision API**

Developed a full-stack medical imaging web application that utilizes Claude Vision AI to analyze brain MRI/CT scans, classifying the presence of tumors with confidence ratings, urgency triaging, and detailed diagnostic reports. Implemented retry logic with exponential backoff and an image preprocessing pipeline using Pillow.

2. Stock AI Agent ([Link](#))

AI Assistant for Stock Analysis - **LLM** · **Python** · **Streamlit** · **Yahoo Finance**

Developed a modular investment analysis platform that combines real-time market data, technical analysis, Google News RSS feeds, risk assessments, watchlist screening, and explainable reports. Designed a multi-layered architecture featuring providers, analysis agents, shared services, CLI and Streamlit interfaces, and automated testing with pytest.

CERTIFICATIONS

- **Generative AI for Healthcare**, Google Cloud, 03/2026
- **Medical Device Advisor (Medizinprodukteberater)**, TÜV, 02/2025

HOBBIES

Football, SUP, Swimming, Cooking