MUHAMMAD REVA ALIEF FATHONI

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Sidoarjo

Fresh graduate in Biomedical Engineering with strong technical expertise in machine learning, data analysis, and medical device design. Experienced in developing AI models for biomedical applications such as EEG classification, brain tumor detection, and disease prediction. Skilled in Python, C++, and hardware integration, with proven ability to apply analytical thinking and problem-solving to real-world healthcare challenges.

WORKING EXPERIENCES

Biomedical Engineering Experiment - **Airlangga University**   Feb 2025 - Jul 2025

Assistant Laboratory Electrospinning

- Mentored and guided more than 50 biomedical engineering students in conducting laboratory experiments.
- Supervised practical work to ensure proper experimental procedures and successful production of high-quality fibers.
- Coordinated report collection with a 90% submission accuracy target, ensuring structured and reliable documentation.

PT Miconos - **Yogyakarta, Indonesia**   Jul 2024 - Dec 2024

Research and Development

- Conducted market research on electrosurgical unit (ESU) products and adapted findings into locally developed designs.
- Designed and produced two circuit diagram schemes for bipolar and monopolar ESU products, supporting product development and clinical application.
- Provided technical support for assembling and ensuring proper functionality of binocular microscopes used in medical settings.

BRIN (Badan Riset dan Inovasi Nasional) - **Bandung, Indonesia**   Jan 2024 - Feb 2024

Support Engineer

- Assisted in designing and developing an electrical muscle stimulation device for stroke therapy using Proteus and Arduino software.
- Conducted literature studies on biomedical hardware to support product feasibility and safety considerations.
- Collaborated with engineers to produce one functional hardware prototype for therapeutic application.

EDUCATION

Universitas Airlangga - **Surabaya, Indonesia**   Sep 2021 - Sep 2025

Bachelor of Biomedical Engineering, 3.59/4.00

- Final Thesis: Design of a Bipolar Mode Cut Electrosurgical Unit with ESP32-Based Frequency Controller
- Relevant Coursework: Biomedical Instrumentation | Signal Processing | Control Systems Engineering, Machine Learning | Data Analysis & Visualization | Technical Support
- 10+ Medical projects in Machine Learning: Stroke Disease Classification using Naive Bayes, Ultrasonic Radar System with Real-Time Object Detection using Arduino Uno, Brain Tumor Detection using CNN, and others
- Bangkit Machine Learning Cohort 2024: Trained in data analysis, machine learning, and AI applications, with exposure to real-world healthcare use cases.

Projects

- EEG Stress & Anxiety Classification (CNN) – Developed deep learning model to classify stress/anxiety levels from EEG signals under music and Qur'an audio stimuli.
- Brain Tumor Detection (CNN) – Applied convolutional neural networks for medical image classification.
- Stroke Disease Classification (Naive Bayes) – Built predictive model using patient dataset to support early diagnosis.
- Ultrasonic Radar System (Arduino Uno + Real-Time Detection) – Integrated hardware and software for biomedical monitoring system.
- 10+ other projects combining AI, hardware design, and biomedical applications.

ORGANIZATIONAL EXPERIENCES

Unit Kegiatan Mahasiswa Tahfizh Al-Qur'an - **Surabaya, Indonesia**   Nov 2023 - Nov 2024

Vice Chairman

- Assisted the chairman in harmonizing work programs and ensuring smooth management of the organization, impacting 100+ students.
- Provided structured tahfizh programs to strengthen students' memorization and discipline in learning.
- Contributed to leadership, mentoring, and coordination skills applicable to guiding healthcare professionals in product training.

Remaja Masjid Ulul Azmi - **Surabaya, Indonesia**   May 2023 - May 2024

Chairman

- Led the organization to conduct Islamic programs benefiting 5,000+ Airlangga University academicians.
- Initiated a community healthcare program in collaboration with the Faculty of Medicine (mass circumcision, general check-ups, free eye examinations), impacting 100+ local residents.
- Developed strong collaboration and stakeholder management skills through partnerships with academic and medical professionals.

Himpunan Mahasiswa Teknik Biomedis - **Surabaya, Indonesia**   Jan 2021 - Jan 2022

HRD Staff

- Managed student resource development programs for 200+ biomedical engineering students.
- Coordinated the internship program of the association, benefiting 100+ students.
- Strengthened organizational, planning, and people-management skills relevant to product specialist responsibilities.

SKILLS, ACHIEVEMENT, CERTIFICATIONS

- **Language**: Bahasa (Native), English (Advanced)
- **Interpersonal**: Problem Solving, Critical Thinking, Teamwork, Adaptability, Leadership, Deep Analytical Skills, Technical Support & Communication, Creativity & Innovation
- **Technical**: Machine Learning, Python, C++, TensorFlow, Scikit-learn Data Analysis, Medical Applications, Medical Imaging , Hardware & Simulation, MS Excel, MS Office, Git, Canva
- **Training and Certification** (2024): Machine Learning Cohort – Bangkit Academy (Google, Gojek, Tokopedia), Digital Marketing Training (supports business & data insight skills).
- **Achievements** (2022): Contender winner of the Sumatera Utara University Wevolve Essay Contest
- **Achievements** (2022): 1st Winner of FKG Airlangga University STEROID Scientific Writing Competition
- **Achievements** (2022): Finalist essay competition of Integration FTP Brawijaya University