Valentinus Mahendra Aaron Quendangen

Surabaya – Indonesia

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Education

Universitas Airlangga   August 2019 – July 2023

Biomedical Engineering – Medical Instrumentation Major

GPA/IPK: 3.68

Some of what I Learned: Programming and biomedical computing (C++, Python, Matlab), digital and analog electronics, control systems, intelligent systems, signal processing, biomaterials, Embedded Systems, anatomy and physiology

Experience

Mentor on Coding Workshop for Biomedical Engineering   Surabaya

Himpunan Mahasiswa Teknik Biomedis (HMTB) UNAIR   March 2021 - June 2021

- Teach the basic use of syntax, function and how to make simple programs using C++ and Python for the Biomedical Engineering students class of 2021.
- Check and evaluate the results of the program creation task.
  - C++, Python, Teaching, Speaking

Merdeka Belajar Kampus Merdeka (MBKM) Matching Fund   Surabaya

PT Integrasi Bisnis Eksekutif (IBE Reality)   September 2022 - January 2023

- Assisting with the manufacturing of X-Mano, the Wearable Exoskeleton Hand Robot for Movement Therapy of Post-Stroke Patients, through the 4-month internship. Including the 3D design for the case, microcontroller, assembling, and Android application.
- Assist the clinical trial to gain feedback from 20+ post-stroke patients in Universitas Airlangga Hospital.
  - 3D Printing, AutoDesk Inventor, Microcontroller, Clinical trial, Entrepreneurship

Research Engineer Assistant   Surabaya

Neonatal Research Group FK Universitas Airlangga   August 2023 - Present

- Develop the research of Smart Phototherapy System Airlangga Bilirubin Nesting (AirBiliNest), which is a smart phototherapy device for jaundiced babies that can be monitored and controlled using android application. Assembling, testing, and multiplying the prototype required.
- Gather data, including the temperature, humidity, irradiance intensity, and safety in Airlangga University Hospital, and process the data for paper and future development.
- Implementing the MBKM Matching Fund events related to this device with the students, faculty, and industry partners in West Java.
  - Troubleshooting, Microcontroller, Laser Cutting, Soldering, Communication, Testing, Demonstrating

Engineer   Surabaya

PT Medika Karya Airlangga   December 2023 - Present

- Research and development of a smart phototherapy system for jaundiced babies - Smart Phototherapy System Airlangga Bilirubin Nesting (AirBiliNest) Model 2 and 3.
- Charge in managing technical issues, including the prototyping, PCB, wiring design and assembly of the controller, lamp design, sensor development, microcontroller programming, technical drawings, Android application development, and web development.
- Gather data, including the temperature, humidity, Heart rate and SpO2 sensor, irradiance intensity, and safety in Airlangga University Hospital, and process the data for paper and future development.
  - Troubleshooting, basic electronics, soldering, Microcontroller, PCB design, Graphic Design, Laser Cutting, Soldering, Communication, Testing, Demonstrating, RnD, Android Studio, 3D Printing Design, front-end Web Design, back-end web design

ENT Product Specialist   Surabaya
PT Edison Duta Sarana   July 2024 – October 2024

- Manage the supply and stock of ENT medical devices and instruments.
- Communicating between principals, purchasing, marketing, and doctors about the product needed, including instruments, the ENT Unit, and the endoscopy camera.
- Training new users on using the product, assisting in the use of the medical equipment during surgery, and troubleshooting the product problems.
  - Speaking (Indonesian and English), Communication, ENT basic, Management, Problem Solving

Technical Expertise

Programming (Python/MicroPython, C++/Arduino, Matlab, HTML) | Arduino, ESP, Analog Discovery | Basic electronics, Electrical circuits, analog and digital electronics, Soldering, PCB design, 3D Printing, Laser cutting, Graphic design

Achievements

- Best team work at Sebelas Maret International IoT Challange 2021
- Silver award for iMIT SIC 2021 (4th International Malaysia-Indonesia-Thailand Symposium on Innovation and Creativity 2021) held by UiTM Cawangan Malaysia,
  "3d (Three-Dimensional) Lung Cancer Detection and Identification Based On Mixed Reality"

Organizations

• FORMAT (Faculty Press Organization) | Design and Layout Staff	2019 - 2020
• BKK (Faculty Catholic Organization) | MEDINFO Staff (Media and Information)	2019 - 2020
• BKK (Faculty Catholic Organization) | Head of Human Resources Development	2020 - 2021

Research and Publications

• Edukasi Siswa Sma Negeri 1 Kampak Kabupaten Trenggalek Provinsi Jawa Timur Melalui Pelatihan Rancang Bangun Alat Deteksi Kelelahan Berbasis Audiovisual Dalam Peningkatan Mutu Kerja Dan Kesehatan. (Vol. 4 No. 2: Jurnal Pepadu, DOI:10.29303/pepadu.v4i2.2370)	2023
• Design Of Mulifrequency Electrical Impedance Tomography (Mfeit) Based On Analog Discovery To Detect Breast Cancer. (Vol. 87 No. 1: Jurnal Teknologi, DOI:10.11113/jurnalteknologi.v87.21921)	2024
• Evaluation of New Portable Phototherapy Device for Neonatal Hyperbilirubinemia (International Research Journal of Multidisciplinary Scope (IRJMS), DOI:10.47857/irjms.2025.v06i02.03766)	2025