Marcellinus Aroli

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PROFILE SUMMARY

Experienced Software Engineer with 6 years of experience at MetaHeart (Computational Medicine Laboratory), focusing on software development for in-silico virtual electrophysiology simulators. Skilled in parallel programming using MPI and CUDA, programming in C/C++, and Linux system maintenance.

EDUCATION

PhD of Engineering expected August 2025
Kumoh Institute of Technology

Master of Engineering August 2018
Kumoh Institute of Technology

B. Sc. Information Technology September 2015
President University

RELEVANT COURSEWORK

Computational Physiology | Algorithm and Data Structure | Differential Equation | Applied Mathematics | Software Engineering

PROFESSIONAL EXPERIENCE

Computational Medicine Laboratory – *Software Engineer* Sep 2018 – Present
- Creating and developing the cardiac electrophysiology simulation software CardioSim that used by students and researchers for their research.
- Implementing the parallel programming (MPI/CUDA) to accelerate the simulation performance generally 20% faster.
- Designing the Graphical User Interface (GUI) for CardioSim using Qt Widget.

PT iForce Indonesia – *Software Engineer (as vendor for Maybank Indonesia)* Dec 2015 – Aug 2016
- Enhanced the functionality of Maybank's Online Customer Registration system by integrating new features for processing scanned customer data.
- Implemented data extraction and validation capabilities using the OpenText API, ensuring accurate and efficient processing of customer documents.
- Collaborated with stakeholders to analyze requirements and design a scalable solution tailored to the registration system's needs.

Aprisma Indonesia – *IT Support (as vendor for ANZ Indonesia)* Jan 2012 – Jan 2014
- Resolved technical issues for over 500+ internet banking users monthly, ensuring 99.9% system uptime and improving customer satisfaction.
- Designed and developed middleware integrations to enable credit card point redemption for online marketplaces within the Internet Banking system.
- Coordinated the deployment of 10+ major system updates, ensuring minimal downtime and full compliance with banking industry standards.
- Collaborated with cross-functional teams to analyze customer requirements, delivering solutions that enhanced system performance by 15%.
- Monitored and maintained the performance of internet banking systems, proactively reducing incidents by 20% through early detection and resolution.

TECHNICAL SKILLS & CERTIFICATION

Computer-related:
C/C++| Qt | CUDA | MPI | Linux | Java

Language:
English: TOEIC 990, IELTS 6.0

Korean: KIIP 1 (as equal as TOPIK 1)

PROJECT EXPERIENCE

MetaHeart – *CardioSim Electrophysiology Simulator*

- Developed a high-performance electrophysiology simulator for cardiac modeling.
- Implemented core algorithms using C++ to ensure efficiency and accuracy.
- Optimized numerical solvers for simulating cardiac action potentials.
- Designing the GUI for the user interface of the simulator.

HONORS & AWARDS

KOSOMBE Best Poster Presentation Award May 2023
- Recognized for exemplary presentation for my laboratory project, CardioSim.