

KHALID BAGUS PRATAMA DARMADI

FGP PHYSICS ENGINEER, CENTRAL SERVICES DIVISION

PT. FREEPORT INDONESIA

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SUMMARY

Skilled and motivated Fresh Graduate in Physics with expertise in 3D modeling and simulation, electromagnetism and FEM analysis, laboratory work, and project management. Contributed to successful cross-functional team collaborations, with a focus on clear communication and effective leadership.. Dedicated to continuous learning and professional development, certified in Environment Management, and possessing IT expertise. Capable of innovating and implementing solutions to complex challenges. Excited for the opportunity to contribute expertise to the mission of PT Freeport Indonesia.

PROFESSIONAL SKILLS

Adaptability, Analytical thinking, Communication, Collaboration, Creativity, Decision making, Flexibility, Innovation, Leadership, Learning agility, Problem solving, Project management, Regulatory compliance, Teamwork, Time management

TECHNICAL SKILLS

Android development, Arduino Uno, CST Studio Suite, Data analytics, Data science, EM Field analysis, Finite Element analysis, Machine learning, MATLAB programming, Oscilloscopes, Semiconductors, Superconductors, X-ray diffraction analysis, 3D modeling

EDUCATION

Bachelor of Science with Honours, Physics Major | GPA 3.51/4.00 (August 2017 - February 2023)

Universitas Gadjah Mada | Yogyakarta-Indonesia

- Expertise Group: Theoretical and Computational Physics
- *Thesis*: Analytical Study of Modified Ad-Hoc Hamiltonian Model as Representation of Material System Twisted Bilayer Graphene with Addition of Dopant on Superconductive Phase in Conventional BCS Approximation

Electrical Engineer Student (August 2016 - August 2017)

PLN Institute of Technology | Jakarta-Indonesia

Acceleration Program, High School Diploma (June 2014 - June 2016)

SMAN 4 | Jayapura-Indonesia

WORK EXPERIENCE

Accelerator Systems Researcher | Internship (December 2019 - February 2020)

Accelerator Science and Technology Center - BATAN, Yogyakarta - Indonesia

- Analyzed electromagnetic parameters of DECY Cyclotron's 13 MeV RF pick-up components, identifying ideal penetration depths for 6 of 22 variations, resulting in improved component efficiency.
- Resolved issues with cyclotron components, reducing incomplete calculations by 72% through troubleshooting and utilization of Time Domain Solver technique, improving cyclotron stability and performance.
- Obtained 10 resonance frequencies of cyclotron stability at varying penetration depths, improving cyclotron performance and stability during operation.

Modern Physics Lab Assistant | Part-Time (September 2019 - December 2019)

Nuclear Atomic Physics Laboratory - Universitas Gadjah Mada, Yogyakarta - Indonesia

- Proficiently used laboratory instruments such as XRD, Oscilloscope, and Interferometry to conduct experiments with high-quality data accuracy rates above 95%
- Assisted in the design and implementation of experiments to investigate phenomena in modern physics, resulting in the successful completion of 10 experiments within the allotted timeframe.
- Maintained laboratory equipment and ensured compliance with safety protocols, resulting in 100% adherence and significantly reducing equipment downtime/

Basic Physics Lab Assistant | Part-Time (June 2018 - June 2019)

Basic Physics Laboratory - Universitas Gadjah Mada, Yogyakarta - Indonesia

- Conducted >20 diverse experiments, including optics, mechanics, electromagnetism, and thermodynamics, developing proficiency in experimental physics applications.
- Achieved >90% data accuracy rate using laboratory instruments such as oscilloscopes.
- Mentored and supervised more than 30 undergraduates, resulting in >90% student satisfaction and improved performance on lab reports and presentations.

PROJECTS

Stories Android App (February 2023 - March 2023)

PT Dicoding Akademi Indonesia | Jakarta-Indonesia

- Developed advanced database functionality for Stories Android App, resulting up to 30% reduction in query response time and demonstrating proficiency in data structures and optimization.

GitHub Users Android App (November 2022 - January 2023)

PT Dicoding Akademi Indonesia | Jakarta-Indonesia

- Implemented concurrent programming techniques to retrieve and manipulate data from GitHub API, resulting in seamless API data retrieval and UI response time under 0.4 seconds faster than without concurrent methods.

Top CEO Android App (November 2022 - November 2022)

PT Dicoding Akademi Indonesia | Jakarta-Indonesia

- Designed and developed user interface and navigation for Top CEO Android App, achieving a 5-star rating and a 90% expertise score on Beginner's Android App certification project tasks.

Building DECY Cyclotron 13-MeV 3D Model from 2D Technical Drawings & Simulate EM Field Dynamics with Thermodynamics Inter-Cross Components (December 2019 - February 2020)

Accelerator Science and Technology Center - BATAN, Yogyakarta - Indonesia

- Created a comprehensive 3D model of the DECY Cyclotron's 8 core components from detailed 2D technical drawings using CST Studio Suite.
- Conducted 34 calculation runs over 10 electromagnetic modes, optimizing the design of the cyclotron's inter-cross components and improving simulation accuracy.
- Achieved an average model accuracy rate of 95% across all 8 core components. Identified optimal penetration depth and circular radius for resonance frequency (Mode 1).

MATLAB 3D Model Equation Calculator Application to Simulate Vector Dynamics on Divergence and Convergence (December 2019 - February 2020)

PLN Institute of Technology | Jakarta-Indonesia

- Developed MATLAB 3D model equation calculator app to simulate vector dynamics with 90% user satisfaction.
 - Conducted 50 simulation runs of 3D vector field divergence and convergence to analyze and interpret results.
 - Analyzed and interpreted simulation results to better understand vector dynamics.
 - Collaborated with electrical engineering team to complete project within the timeline.
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ORGANIZATIONS

Head of Research and Scientific Seminars Department (December 2019 - February 2020)

Physics Student Association - Universitas Gadjah Mada | Yogyakarta - Indonesia

- Formed and guide 20+ team members of physics major students to compete in National Student Creativity program.
 - Collaborated with other departments to boost student interest and participation in research activities and local non-academic event by the Association, increasing student involvement over 60%
 - Created engaging research and seminar environment, increasing attendance of weekly seminars and discussions up to 30%
 - Initiated Top Challenge of Physics for high school students, resulting in participation for more than 25 schools national-wide.
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CERTIFICATIONS & ACHIEVEMENTS

Cloud Solutions and Architecture (September 2022 - March 2023)

AWS Academy, Microsoft Learn, Google Cloud Skills Boost, Google Career Certificates | Global

- Implementing AI, Data, Machine Learning, Data Engineer, Cloud Solutions on Microsoft Azure (Microsoft Learn) with total of 56 badges and 10 trophies.
- Cloud Foundations (AWS Academy) with 1 badge.
- Data Engineer on Google Cloud Path with (Google Cloud Skills Boost) with total of 6 badges.
- IT Support Career Certificate (Google Career Certificates)

Data Science, Analytics, Engineer and Big Data Processing (August 2022 - March 2023)

Datacamp, Google Career Certificates, IBM Skills Network | Global

- Data Analyst with Python, Data Analyst in SQL, Data Scientist with Python, Machine Learning Scientist with Python (Datacamp) with total of 4 certificates.
- Data Analytics (Google Career Certificates)
- Business Intelligence Foundations with SQL, ETL and Data Warehousing, Data Engineering Foundations, IBM Data Warehouse EngineerNoSQL, Big Data, and Spark Foundations (IBM Skills Network) with total of 4 certificates and

Programming and Software Development (October 2022 - February 2023)

Dicoding Academy | Jakarta, Indonesia

- Android Developer Path (66%) and Multi-Platform App Developer Path (33%) with total of 5 certificates on Mobile Apps Programmer journey.
- Front-End Web Developer Path (50%), Back-End Developer Path (50%), and DevOps Engineer Path (20%) with total of 6 certificates on Full-Stack Programmer journey.
- Machine Learning Developer Path (50%) with total of 3 certificates in ML Engineer journey.

ISO 14001 : 2015 - Environment Management Certification (November 2018 - November 2018)

KAMIPAGAMA UGM | Indonesia

- Achieved 95% score on ISO 14001:2015 certification audit, demonstrating proficiency in Indonesian environmental regulations and compliance.
- Conducted thorough environmental impact assessments and implemented risk management controls simulation, reducing environmental risks by 30% in organizational operations.
- Implemented sustainable development practices simulation, achieving a 20% reduction in waste generation and 15% increase in energy efficiency through resource conservation initiatives.

Fundamentals of Arduino with Honours Certification (November 2018 - November 2018)

PLN Institute of Technology | Jakarta-Indonesia

- Basic concepts of microcontroller programming using Arduino platform.
- Implementing and troubleshooting basic electronic circuits.
- Creating and debugging simple programs in the Arduino Integrated Development Environment.
- Interfacing sensors, actuators, and displays with Arduino.
- Designing and building basic Internet of Things (IoT) projects using Arduino and cloud platforms.

Ide Hebat National Business Competition - 2nd Place Champion (November 2015 - November 2015)

Hebat Group Asia | Yogyakarta, Indonesia

- Conceptualized a top 10 nationwide high school business idea with innovative solutions that identified market opportunities.
- Led team to 2nd place finish, promoting teamwork and fostering strategic thinking to achieve success.
- Delivered a captivating pitch to judges, achieving high scores on communication and presentation skills.

National Science Olympiad, Astronomy (May 2015 - May 2015)

Ministry of Education, Culture, Research and Technology | Indonesia

- Passed the regional selection process as the sole representative of Papua province, demonstrating dedication to academic excellence and perseverance in the face of competition.
- Gained advanced knowledge and skills in the field and displayed a commitment to learning and personal growth.

National Schools Debating Championship (September 2014 - September 2014)

Ministry of Education, Culture, Research and Technology | Indonesia

- Managed to pass the regional selection process and secured a position as the sole team representative from Papua province, highlighting resilience and perseverance.
- Collaborated with 2 team members and engaged in rigorous research and analysis to prepare for debates, demonstrating teamwork and research skills.
- Competed in the National Schools Debating Championship (English language), honing the ability to analyze and communicate complex topics effectively.