Bryan Philinathaniel Hutagalung

bryan.p.hutagalung@gmail.com | +6282211878972 | linkedin.com/in/bryan-hutagalung | github.com/nathangalung

A driven Information Systems and Technology student at Bandung Institute of Technology with a strong foundation in data science, AI, and machine learning. Experienced in developing and deploying machine learning models to solve real-world problems, with a focus on optimizing performance and scalability. Proven leadership in managing teams and delivering data-driven solutions, backed by certifications in AI and data science from IBM and Google.

Educations

Bandung Institute of Technology | *Bandung, Indonesia*   **August 2022 - Present**
- *Bachelor of Science in Information System and Technology. GPA: 3.51/4.00*
- Related Courses: Algorithm and Data Structure, Algorithm Strategy, Object Oriented Programming, Database Modelling, Database Management, Foundations of Artificial Intelligence, Machine Learning

Organizational Experiences

HMIF ITB - Deputy Head of Internal Department | *Bandung, Indonesia*   **May 2024 - Present**
- Organized and oversaw 4+ large-scale events with 1,500+ participants, achieving a 60% success rate in meeting organizational targets during the first half of my tenure.
- Led 65 members across 3 divisions, ensuring smooth operations and fostering a supportive environment for over 1,000 HMIF ITB members.

Kabinet KM ITB - General Director of Research | *Bandung, Indonesia*   **September 2023 - April 2024**
- Produced 3 comprehensive research documents based on data collected from 44 Himpunan Mahasiswa Jurusan (HMJ), providing valuable insights for the consideration and evaluation of the cadet system used within each HMJ and KM ITB.
- Led a team of 3 researchers to provide actionable insights, driving academic and organizational improvements across ITB student organizations.

Work Experiences

PT Global Niaga Sakti - Web Developer (Contract, Remote) | *Bandung, Indonesia*   **January 2025 - March 2025**
- Spearheaded the complete redevelopment of PT Global Niaga Sakti's multilingual corporate website using Astro, Tailwind CSS, and TypeScript, increasing site performance by 300% with a 95+ Google Lighthouse score compared to the previous WordPress implementation.
- Designed and implemented a robust internationalization system supporting English and Indonesian languages, resulting in a 40% increase in international client engagement and reducing bounce rates by 25% for non-Indonesian visitors.
- Engineered a responsive, accessible user interface with optimized SEO practices, improving organic search visibility by 65% and increasing lead generation through contact forms by 50% within the first three months of deployment.

Achievements

Find IT! 2025 - Finalist Data Analyst Competition | *Yogyakarta, Indonesia*   **April 2025 - Present**
- Developed a machine learning model to predict COPPA compliance risks in mobile apps, analyzing app metadata to identify child-targeting signals and improve risk detection.
- Built an ensemble model (XGBoost, CatBoost, LightGBM, Random Forest) achieving 97% recall for high-risk apps, enhancing compliance screening accuracy.
- Created an end-to-end ML pipeline that reduced manual compliance review by 60%, maintaining high detection accuracy and providing clear insights through reports and visualizations.

Volunteering

ARKAVIDIA 9.0 - Head of Data Science Academy Sub-Division | *Bandung, Indonesia*   **October 2024 - Present**
- Developed a Data Science curriculum with 4 milestones, covering topics from introduction to storytelling, in consultation with experts, faculty, and industry standards.
- Designed selection questions, 4 hands-on projects, and 1 major capstone project, ensuring a practical learning experience for students.
- Led the recruitment of over 15 industry speakers, mentors, and judges, offering participants in the academy valuable exposure to real-world applications and insights.

Perayaan Wisuda Oktober HMIF ITB 2024 - Project Officer | *Bandung, Indonesia*   **July 2024 - October 2024**
- Organized 3 major events with 1,000+ attendees, achieving a 90% satisfaction rate by introducing innovative event formats.
- Led 306 committee members across 6 departments to ensure smooth execution and high participant engagement.

OSKM ITB 2024 - Field Coordinator | *Bandung, Indonesia*   **July 2024 - September 2024**
- Managed 1,151 field members and coordinated logistics for 7,500+ participants, reducing wait time by 30%.
- Delivered 5 key educational sessions to new students, ensuring safety and a positive onboarding experience.

Projects

Scratch Neural Network for Modeling and Predicting | *Python, AI, ML, ANN, FFNN* | Repository   **Maret 2025**
- Engineered a comprehensive neural network framework from scratch with multiple activation functions (7+), weight initialization methods (5), and optimization techniques, achieving >93% accuracy on MNIST digit classification while providing detailed performance visualizations that reduced model optimization time by 40%.
- Developed a modular machine learning library implementing advanced features like Adam optimization, batch normalization, and gradient clipping, which demonstrated 35% faster convergence compared to baseline models and enabled systematic comparison of neural network architectures across multiple hyperparameters

Chatbot for Document Reader | *LangChain & Transformers, PyTorch, FAISS, Streamlit* | Repository   **January 2025**
- Achieved 70% faster document processing through GPU acceleration and efficient memory management, enabling real-time analysis of large PDF documents with response times under 2 seconds.
- Developed an AI-powered system that successfully processes and analyzes PDF documents with 85% accuracy in query responses, supporting concurrent user interactions while maintaining optimal GPU memory usage below 60%.

Scratch Algorithm for Modeling and Predicting | *Python, AI, ML, KNN, GNB* | Repository   **Desember 2024**
- Developed custom machine learning algorithms achieving 94.7% F1-score for phishing detection, demonstrating comparable performance to industry-standard implementations
- Successfully processed and analyzed 98,000+ data points through optimized KD-Tree implementation, reducing prediction time by handling high-dimensional data efficiently

Scratch Algorithm for Magic Cube Solver | *Python, React.js, RESTful API, Tailwind CSS* | Repository **November 2024**
- Engineered an intelligent magic cube solver achieving 85% faster solution convergence compared to traditional methods by implementing 6 advanced local search algorithms (Steepest Ascent, Sideways Move, Stochastic, Random Restart, Simulated Annealing, and Genetic Algorithm)
- Developed an interactive 3D visualization system with real-time solution playback that increased user engagement by 90%, handling over 1000+ cube states while maintaining smooth 60 FPS performance

Certifications
- **IBM AI Engineering** | *Python, PyTorch, Tensorflow, Transformers, Gradio, LLM, LangChain* | Credentials
- **IBM Data Science** | *Python, SQL, Scikit-Learn, GenerativeAI* | Credentials
- **Google Data Analytics** | *R, SQL, Tableau, Spreadsheet* | Credentials