

# RAMADHAN OKTOVIVIAN MUHAMMAD

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Data science, machine learning, software engineering, and possesses a solid understanding of project management methodologies including Scrum, Agile, and SDLC. Equipped with a solid foundation in machine learning, gained through academic training and hands-on projects, specializing in data analysis, model development, and deploying AI solutions.

## EDUCATION

Telkom University <b>Bachelor, Informatics. GPA [3.95/4.00]</b> Bandung, Indonesia	2021-now
SMAN 2 Lamongan <b>Natural Science (IPA), GPA [93.2/100]</b> Lamongan, Indonesia	2019 - 2021

## EXPERIENCES

<b>Smartpath.id</b> <b>IT Project Manager (Part Time - Remote)</b> <ul style="list-style-type: none"><li>Managed Bootcamps, E-learning, Event, and Blog Projects</li><li>Led sprint planning, daily stand-ups, and retrospective meetings, maintaining team engagement and momentum throughout the project lifecycle.</li><li>Ensured alignment with stakeholders by organizing periodic check-ins and presenting progress updates, which helped in adapting to changing requirements swiftly.</li></ul> <b>IT Project Manager (Internship)</b> <ul style="list-style-type: none"><li>Managed two projects simultaneously, focusing on KPI web project and referral feature.</li><li>Led two teams of five members each, fostering collaboration and ensuring timely project delivery.</li><li>Also served as a systems analyst and quality assurance (QA), ensuring system requirements were met and delivering high-quality results.</li><li>Facilitated the sprint process and maintained the momentum of the Scrum framework, ensuring efficient project execution.</li></ul>	2024
<b>Data Science Research Group Telkom University</b> <b>Machine Learning Programmer</b> <ul style="list-style-type: none"><li>Train 60+ Machine Learning Models to Classify Indonesian Traditional Script using Pretrained models such as MobileNet, ResNet, DenseNet, InceptionV3, EfficientNet.</li><li>Collected and prepared over 20000 'Aksara' images for Optical Character Recognition (OCR), ensuring data integrity and relevance to research objectives.</li><li>Conducted meticulous data preprocessing tasks, including data cleaning, normalization, and formatting, to optimize the accuracy of OCR algorithms.</li><li>Assisted in developing and implementing data preparation pipelines, streamlining the process and enhancing efficiency in dataset acquisition and preparation.</li></ul>	2024
<b>Telkom University</b> <b>Teaching Assistant for Discrete Math and Algorithmic Strategy</b> <ul style="list-style-type: none"><li>Corrected tests for two classes, totaling over 80 students in the Strategic Algorithm class, ensuring accurate evaluation and feedback for student progression</li><li>Corrected tests for more than 40 students in the Discrete Mathematics class, maintaining consistency and fairness in grading practices.</li><li>Delivered lectures four times throughout the semester, effectively conveying complex concepts in Strategic Algorithm and Discrete Mathematics to enhance student understanding and engagement.</li></ul>	2023 - 2024

## PROJECTS AND RESEARCH

<b>Hotspot Detection in Whole-body Bone Scan via Deep Learning</b> <ul style="list-style-type: none"><li>Worked with a dataset of 600 images, annotating 50% of them as containing hotspots, crucial for training and evaluation purposes.</li><li>Conducted annotation to label images as containing hotspots or not, ensuring accuracy and consistency in the labeling process.</li><li>Led the construction of two U-Net++ models with distinct architectures to facilitate performance comparison.</li><li>Designed each model considering parameters such as layer depth, filter size, and filter count per layer, optimizing architecture for effective feature extraction.</li></ul>	2024
<b>Whole-body Bone Scan Segmentation via Deep Learning</b> <ul style="list-style-type: none"><li>Contributed to the development and annotation of a dataset comprising plain whole-body bone scan images obtained from the Faculty of Medicine, Universitas Padjadjaran.</li><li>Selected a subset of the best segmented images from the pool of 600 for training purposes.</li><li>Trained the selected subset using a semi-supervised approach, incorporating 36 manually segmented images for improved accuracy and reliability in the segmentation process.</li></ul>	2024

- Implemented the U-Net architecture to ensure precise segmentation results, contributing to the development of accurate models for hotspot detection in bone scan images.

#### **Predicting Serum Creatinine Levels in Heart Failure Patients with Neural Networks** 2023

- Conducted comparative analysis between Support Vector Regression (SVR) and Artificial Neural Network (ANN) methods on a dataset comprising medical records of 299 patients with heart failure.
- Explored hyperparameters of both methods to optimize model performance, considering factors such as kernel type, regularization parameters, and neural network architecture.
- Utilized scikit-learn library for model training, leveraging its comprehensive set of tools for machine learning tasks.

#### **Movie Recommender System using Matrix Factorization** 2023

- Developed a recommendation system for four films utilizing a dataset containing 46,638 images.
- Implemented matrix factorization techniques to create a collaborative filtering model, enabling personalized recommendations based on user preferences and item characteristics.
- Conducted thorough experimentation to evaluate the impact of various parameters on the model's performance, including factors such as matrix size, regularization strength, and learning rate.

#### **Data Online News Popularity Classification using Ensemble Learning** 2023

- Implemented a classification task to determine the popularity level of news articles based on their features.
- Conducted preprocessing on a dataset comprising 39,644 instances, ensuring data quality and consistency for subsequent analysis.
- Utilized a decision tree algorithm as the foundation for the initial model, leveraging its interpretability and ease of implementation.
- Employed Adaboost (Adaptive Boosting) technique to enhance the predictive performance of the model, improving its accuracy and robustness in predicting news article popularity levels.

## **LABORATORY AND ORGANIZATION**

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### **Mobile Innovation Laboratory** 2023 – 2024

#### **Digital Business and Data Analytics Mentor**

- Taught and guided over 40 students in study groups, fostering collaborative learning and skill development.
- Delivered weekly lectures throughout the semester, covering topics such as digital business, project management, and data analytics to provide students with comprehensive knowledge and practical insights.
- Provided mentorship and support to students, facilitating their understanding and application of concepts in real-world scenarios, thereby enhancing their proficiency in digital business and data analytics.

### **LEAD program by DINOTIS** 2022 – 2023

#### **Scrum Master**

- Led the optimization of the 'Rate Card' feature for the Dinotis Mobile Application, ensuring its functionality and usability through thorough user research.
- Conducted user research to validate and refine the Rate Card feature, gathering feedback and insights to enhance user experience and meet customer needs effectively.
- Prepared and delivered weekly reports to the product owner, providing transparent updates on project progress, impediments, and accomplishments

## **SKILLS & OTHERS**

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- **Skills:** Python, Pandas, Matplotlib, Tensorflow, Scikit, SQL, Keras, C++, Java, Jira, MS Office, Github, Streamlit
- **Additional Skills:** Computer Vision, Recommender System, Digital Image Processing, Machine Learning, Project Management, Scrum, Agile, Digital Business, Data Analysis, UI/UX research, Wireframing, Flowchart, User Flows Diagram, UML Diagrams, Use Case Diagram, Scenario Case Diagram.
- **Certifications:** [DeepLearning.AI TensorFlow Developer](#); [Machine Learning](#); [Sequence Time Series and Prediction](#); [Introduction to Tensorflow for AI, ML, and Deep learning](#); [Convolutional Neural Network in TensorFlow](#); [NLP in TensorFlow](#); [Advanced Learning Algorithms](#); [Supervised ML: Regression and Classification](#); [Unsupervised Learning](#); [Recommenders](#); [Reinforcement Learning](#); [Structuring ML Projects](#).

## **HONOR - AWARDS**

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- **Startup Grant:** passed the funding in startup incubation Bandung Techno Park
- **1<sup>st</sup> Winner:** Web Development Competition LLDIKTI Wilayah 4
- **1<sup>st</sup> Winner:** Business Plan Technology Euphoria Sriwijaya University
- **2<sup>nd</sup> Winner:** UI/UX Competition Technology Euphoria Sriwijaya University
- **2<sup>nd</sup> Winner:** DIGIX DIGICOMP Business Competition University of Padjadjaran
- **2<sup>nd</sup> Winner:** Crenovation Business Competition 2023 Telkom University
- **2<sup>nd</sup> Winner:** Crenovation x PKM Business Competition 2022 Telkom University
- **2<sup>nd</sup> Winner:** AISC UI/UX Competition Telkom University