

Ravialdy Hidayat

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SUMMARY

I am a professional having 3+ year experiences in building and deploying ML/AI models, statistical modeling, and AI research with 2+ year experience as data scientist in some industries and another 1 year as an AI researcher. I co-led a team that developed and tested deep learning detection and tracking models for analyzing the safety of heavy vehicles, achieving high accuracy and automation. I hold a bachelor's degree in statistics from Universitas Indonesia and several certifications. Currently, I am a research assistant at Sejong University. The research topic is related to computer vision, natural language processing, and the intersection between machine learning and computer security. My personal website where I am actively writing several blogs and presentation slides related to many topics in AI is <https://ravialdy.github.io/>.

EDUCATION

UNIVERSITAS INDONESIA

Sep 2018 - June 2022

Best university in Indonesia #QS World University and Times Higher Education (THE) 2024 Rankings

Statistics, Year 2018. Final GPA 3.52/4.00 (Top 10%, Cumlaude)

Relevant Coursework : Data Mining, Probability and Statistics, Regression Analysis, etc.

BANGKIT ACADEMY LED BY GOOGLE, GOJEK, TOKOPEDIA, AND TRAVELOKA

Jan 2021 - June 2021

- Machine Learning Path. Grade "A" 93.88/100
- Certified Google Tensorflow Developer
- Relevant tools : Python, Tensorflow, OpenCV, Tesseract, Javascript.

RELATED EXPERIENCE

SEJONG UNIVERSITY

Seoul, South Korea

AI Student Research Assistant

Jan 2023 - Present

- Reproduced several machine learning papers (one of them is listed in this CV), such as video captioning, video question-answering, object detection, parameter-efficient transfer learning, adversarial attacks, and efficient adversarial defense methods.
- Created presentation slides for various machine learning architectures and topics (e.g., Transformer, RNN, LSTM, Policy Gradient Methods in Reinforcement-Learning (RL), Large Language Model (LLM), Vision-Language Pretraining (VLP), Black-Box Adversarial Attacks and Defenses, and Natural Physical Attacks and Defenses).
- Relevant tools : Python, JavaScript, MATLAB, PyTorch, Tensorflow, JAX, Flax, Tensorboard, Weights and Biases, and Docker.

PT BERAU COAL

Berau, East Kalimantan

Data Scientist

Aug 2021 - April 2023

- Successfully increased accuracy of no face warning from ~ 50 % to ~ 90 % by using object detection and behavior analysis algorithms with some additional features using OpenCV library.
- Created the object tracking model added with advanced deviation detections to mitigate the risk happened in the mining site area.

Ravialdy Hidayat

- Created statistical modeling and data visualizations for analyzing the company's data.
- Created an automation system that makes possible from processing the input in form of excel to the output of a new excel file with the result of our model's detections.
- Helped the data engineers to deploy the created models in the company's server.
- Created visualizations and reports to supervisors and key users based on the result of the created model's detections.
- Relevant tools : Python, SQL, R, Tableau, PyTorch, Tensorflow, Tesseract, Darknet, and Labellmg.

PT NIAGA BERDIKARI

Data Scientist Intern

June 2021 - August 2021

- Found several insightful insights based on the provided data using Python, Tableau, and SAP Data Analytics.
- Created a dashboard contained with several meaningful insights.
- Created a report to key stakeholders and mentors.

NOTABLE PROJECTS

LLaMA-2 Chatbot Javanese language (Basa Jawa)

- Link project : <https://github.com/ravialdy/llama2-javanese>
- Translate english instruct OASST1 and OASST2 datasets into javanese language using [NLLB model](#).
- Finetune LLaMA-2 to become a chatbot for basa Jawa with Multi-GPUs training.
- Utilize latest tools, such as DeepSpeed, TRL, and LORA PEFT to enable fast and efficient finetuning.
- Simple deployment of finetuned LLaMA-2 model with Flask.
- Tools : DeepSpeed, TRL, LORA PEFT, Huggingface, NLLB, Flask.

Ravialdy's Personal Website

- Link website : <https://ravialdy.github.io/>
- Created several blogs and presentation slides related to Autonomous Driving, Computer Vision (CV), Natural Language Processing (NLP), Reinforcement Learning (RL), Deep Learning frameworks, and Adversarial Attacks & Defense methods.

ZOSignSGD Black-Box Adversarial Attacks written in PyTorch

- Link project : <https://github.com/ravialdy/ZOSignSGD-PyTorch>
- First attempt to reproduce the ZoSignSGD black-box adversarial attack published in ICLR 2019 (<https://openreview.net/pdf?id=BJe-DsC5Fm>) that is written purely in PyTorch and strictly follows statements described in the paper.
- Supports Multi-GPU training by using PyTorch's Distributed Data Parallel (DDP).

RELATED INTERNATIONAL CERTIFICATION

- IELTS Academic Official Score : 7.0
- Certified Google *Tensorflow Developer*
- *New TEPS Official Score* : 376 developed by Seoul National University

HONORS - AWARDS

- Finalist of National Data Mining Competition of Jogja Information And Technology Session 2021 held by HIMAKOM Gadjah Mada University.
- 1st Winner of English Debate Competition at Pekan Prestatif 2018 by BEM FMIPA UI.

SKILLS & INTERESTS

- Technical** : Python, Matlab, Javascript, Tensorflow, PyTorch, JAX, Darknet, OpenCV, Tableau, SQL, Scikit-Learn, R, Tensorboard, Weights and Biases, and Docker.
- Interests** : Machine Learning, Computer Vision, Natural Language Processing, Data Analysis & Analytics, Data Visualization, AI model deployments, and Project Management.