Ali Akbar Septiandri

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Education

The University of Edinburgh — Edinburgh, UK
MSc Artificial Intelligence with Merit — *Sep. 2015 – Aug. 2016*

Institut Teknologi Bandung — Bandung, Indonesia
BSc Informatics (GPA: 3.49/4.00) — *Aug. 2009 – Oct. 2013*

Experience

Revolut — London, UK
Data Scientist — *Sep. 2020 – Present*

- Create a portfolio optimisation model for Facebook ads
- Build a gross profit prediction model for user acquisition engine, reducing the error by up to 58% from the latest benchmark
- Explore multi-armed bandits with Thompson sampling and Gaussian rewards for marketing budget optimisation
- Forecast gross profits of high-value users for referral campaigns, achieving CAC $<$ £1
- Create interpretable customer segmentation using dimensionality reduction and clustering methods

Universitas Al Azhar Indonesia — Jakarta, Indonesia
Adjunct Lecturer — *Feb. 2017 – Present*

- https://uai.aliakbars.id
- Teaching Data Mining, Artificial Intelligence, Pattern Recognition, Python Programming, Soft Computing (Practical Deep Learning)
- Adapting materials from Stanford University (CS124, CS221, CS229, CS230, CS231n), the University of Edinburgh (IAML, MLP, MLPR), and Harvard University (CS109)

HappyFresh — Jakarta, Indonesia
Data Science Consultant — *Aug. 2020 – Sep. 2020*

- Build an in-house out of stock prediction model (previously using 3rd party), reducing the out-of-stock rate by ∼5% from offline evaluation, saving potentially $84,000 per year
- Recommend product replacements for out-of-stock products using word2vec (fastText) and approximate nearest neighbours (annoy), compare the results to current item2vec implementation

eFishery — Bandung, Indonesia
Senior Data Scientist (Freelance) — *Apr. 2020 – Jul. 2020*

- Lay the groundwork for data organization and workflow
- Nowcasting commodity prices using time series analysis
- Explore lucrative selling channels using R and tidyverse
- Analyse funding utilisation and calculate customer lifetime values
- Mentor data analysts and aid CEO office analysts to produce monthly reports

Airy Nest Indonesia — Jakarta, Indonesia
Lead Data Scientist — *Apr. 2019 – Mar. 2020*

- Customer segmentation based on BG/NBD model for customer lifetime values (CLV)
- Property segmentation using contractual lifetime value (LTV) from survival analysis using Cox Proportional-Hazards model
- Establish research collaboration on NLP with ITB
- Experiment with BERT for aspect-based sentiment analysis on hotel reviews
- Conduct workshops and internal sharing sessions
- Lead the analytics team of six people

Data Scientist — *Oct. 2017 – Mar. 2019*

- Design and analyse in-house conjoint analysis using Plackett-Burman design and logit, saving more than 75% of $42,000 cost for outsourcing the project

- Experiment on dynamic retail pricing of Airy properties using gradient boosted trees and neural networks with Keras/TensorFlow
- Propose and implement Bayesian search ranking, the analysis was done using PyMC3
- Cluster reviews, CS tickets, and survey results using UMAP, DBSCAN, Latent Dirichlet Allocation

Inovasi Sehat Indonesia Jakarta, Indonesia
CTO *Sep. 2013 – Aug. 2015*

- Develop Android mapping application and personality test application
- Develop an automated reporting system using Django
- Field workers performance evaluation using anomaly detection
- Write a research paper about using machine learning to identify TB suspects via verbal screening, achieving a 24% increase in specificity while maintaining the sensitivity around 93%

Honours & Awards

3rd (out of 58 teams), UKARA 1.0 Challenge Track 1 by NLP Group UGM — Yogya, Indonesia, 2019
Top 5 (out of 498 teams), Go-Hackathon by Go-Jek — Jakarta, Indonesia, 2017
National Winner, Microsoft Imagine Cup World Citizenship Category — Jakarta, Indonesia, 2016
Runner-up, JP Morgan Chase & Co. Code for Good — London, U.K., 2015
Awardee (∼3.6% success rate), Indonesia Presidential Scholarship — Jakarta, Indonesia, 2015
Top 10 (out of 99 teams from 77 universities), Data Mining Cup by prudsys — Germany, 2013

Proceedings

Septiandri, A.A., Winatmoko, Y.A. and Putra, I.F., 2020, November. Knowing Right from Wrong: Should We Use More Complex Models for Automatic Short-Answer Scoring in Bahasa Indonesia?. In *Proceedings of SustaiNLP: Workshop on Simple and Efficient Natural Language Processing (pp. 1-7)* at EMNLP 2020.

Septiandri, A.A., Jamal, A., Iffanolida, P.A., Riayati, O., and Wiweko, B., 2020. Human Blastocyst Classification after In Vitro Fertilization Using Deep Learning. In *2020 International Conference of Advanced Informatics: Concepts, Theory and Applications (ICAICTA)*. IEEE.

Fernando, J., Khodra, M.L. and **Septiandri, A.A.**, 2019, September. Aspect and Opinion Terms Extraction Using Double Embeddings and Attention Mechanism for Indonesian Hotel Reviews. In *2019 International Conference of Advanced Informatics: Concepts, Theory and Applications (ICAICTA) (pp. 1-6)*. IEEE.

Salsabila, N.A., Winatmoko, Y.A., **Septiandri, A.A.** and Jamal, A., 2018, November. Colloquial Indonesian Lexicon. In *2018 International Conference on Asian Language Processing (IALP) (pp. 226-229)*. IEEE.

Septiandri, A.A. and Wibisono, O., 2017, January. Detecting spam comments on Indonesia's Instagram posts. In *Journal of Physics: Conference Series (Vol. 801, No. 1, p. 012069)*. IOP Publishing.

Septiandri, A.A. and Purwarianti, A., 2013. Identifikasi Opinion Leader pada Twitter dengan Teknik Pembelajaran Mesin. In *Konferensi Nasional Informatika*.

Abstracts

Septiandri, A.A., Aditiawarman, Tjiong, R., Burhan, E. and Shankar, A., 2020. Cost-Sensitive Machine Learning Classification for Mass Tuberculosis Verbal Screening. *arXiv preprint arXiv:2011.07396*. (Machine Learning for Health (ML4H) at NeurIPS 2020 - Extended Abstract)

Septiandri, A.A., Rezqi, M., Aisyah, D.N., Ataka, A., Virdyawan, V., Marhaendro, D., Suryaningdiah, D., Rosyid, A.N., 2018. Evaluating the Performance of Automated Classification of Sputum Smear Slides for TB Diagnostics. In *IJCAI BOOM Workshop Abstract*.

Technical Skills

Languages: Indonesian (native), English (fluent), Spanish (basic)
Programming Languages: Python, R, SQL (PostgreSQL, Presto, Redshift), Java, JavaScript, C/C++, HTML/CSS
Frameworks: TensorFlow, PyTorch, PyMC3, Flask, Django
Developer Tools: Git, Google Cloud Platform, Amazon S3, Sisense, Metabase, VS Code, Airflow
Libraries: NumPy, SciPy, pandas, matplotlib, plotly, scikit-learn, ggplot2, tidyr, dplyr