

Ali Akbar Septiandri

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EDUCATION

University College London <i>MPhil/PhD Statistical Science (part-time)</i>	London, UK <i>Sep. 2021 – present</i>
The University of Edinburgh <i>MSc Artificial Intelligence with Merit</i>	Edinburgh, UK <i>Sep. 2015 – Aug. 2016</i>
Institut Teknologi Bandung <i>BSc Informatics (GPA: 3.49/4.00)</i>	Bandung, Indonesia <i>Aug. 2009 – Oct. 2013</i>

EXPERIENCE

Nokia Bell Labs <i>Research Data Scientist / Senior NLP Data Scientist</i>	Cambridge, UK <i>Dec. 2022 – present</i>
<ul style="list-style-type: none">Research in social dynamics and responsible AI/NLP under the Social Dynamics team led by Dr. Daniele Quercia	
Universitas Al Azhar Indonesia <i>Adjunct Lecturer</i>	Jakarta, Indonesia <i>Feb. 2017 – Present</i>
<ul style="list-style-type: none">https://uai.aliakbars.idTeach Data Mining, Artificial Intelligence, Pattern Recognition, Python Programming, Soft Computing (Practical Deep Learning)Adapt materials from Stanford University (CS124, CS221, CS229, CS230, CS231n), the University of Edinburgh (IAML, MLP, MLPR), and Harvard University (CS109)Research in deep learning for medical imaging	
Revolut <i>Senior Data Scientist</i>	London, UK <i>Sep. 2020 – Nov. 2022</i>
<ul style="list-style-type: none">Build a gross profit prediction model for user acquisition engine, reducing the error by up to 58% from the latest benchmarkBuild a model for ROI extrapolation using Bayesian hierarchical GLM to serve the whole company for customer acquisition, e.g. performance marketing, referrals, ATL campaignsExplore multi-armed bandits with Thompson sampling and Gaussian rewards for marketing budget optimisationForecast gross profits of high-value users for referral campaigns, achieving CAC < £1Create interpretable customer segmentation using dimensionality reduction and clustering methodsImplement Bayesian Marketing Mix Model with NumPyro, achieving MAPE of 8.8% on validation set	
HappyFresh <i>Data Science Consultant</i>	Jakarta, Indonesia <i>Aug. 2020 – Sep. 2020</i>
<ul style="list-style-type: none">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 yearRecommend product replacements for out-of-stock products using word2vec (fastText) and approximate nearest neighbours (annoy), compare the results to current item2vec implementation	
eFishery <i>Senior Data Scientist (Freelance)</i>	Bandung, Indonesia <i>Apr. 2020 – Jul. 2020</i>
<ul style="list-style-type: none">Lay the groundwork for data organization and workflowNowcasting commodity prices using time series analysisExplore lucrative selling channels using R and tidyverseAnalyse funding utilisation and calculate customer lifetime valuesMentor data analysts and aid CEO office analysts to produce monthly reports	
Airy Nest Indonesia <i>Lead Data Scientist</i>	Jakarta, Indonesia <i>Apr. 2019 – Mar. 2020</i>
<ul style="list-style-type: none">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 modelEstablish research collaboration on NLP with ITBExperiment with BERT for aspect-based sentiment analysis on hotel reviewsConduct workshops and internal sharing sessionsLead the analytics team of six people	

- 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
- 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 a field mapping application and a personality test application on Android
- Develop an automated reporting system using Django
- Evaluate field worker performance 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

Studentship (~£140,000) , UCL EPSRC Mathematical Sciences DTP Research Studentship	London, UK, 2021
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., Constantinides, M., Tahaei, M., Quercia, D., 2023. WEIRD FAccTs: How Western, Educated, Industrialized, Rich, and Democratic is FAccT? In *2023 ACM Conference on Fairness, Accountability, and Transparency*. ACM.

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.

ABSTRACTS

Septiandri, A.A., Aditiawarman, Tjong, 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, PyMC, 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