Randy Pangestu

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SUMMARY

AI scientist which currently working to improve performance on the e-KYC liveness system, with 4 years of working experience in research, design, deployment, and development of various deep learning-based computer vision projects with great working knowledge in python, and PyTorch framework. Experienced and capable of developing research/models with output that aligns with industrial requirements.

EXPERIENCE

Nodeflux, AI Scientist (December 2018 - Present)

Face Liveness Development (2021 - Present)

• Currently responsible for planning, developing, researching, and maintaining the existing liveness core models, with the main objective to get 0% FAR, in order to pass iBeta certification.

• Developed and designed new core 2D liveness sequential models, consisting of edge detection, artifact, and deformation liveness model. This significantly improved the model performance on the internal benchmark dataset by reducing the False Rejection Rate (FRR) from 30.7% to 16.1% and the False Acceptance Rate (FAR) from 1.7% to 0.5%. Additionally, also developed the initial version of XAI that helps increase the explainability to our client.

• Responsible for assessing the feasibility of 3D liveness model development, by conducting an in-depth study on existing face liveness research.

Face Recognition Development (2020 - 2021)

• Developed and significantly improved a face match recognition model performance across all benchmark datasets, with the most notable improvement on nodeflux Indonesian dataset with more than 30% on TPIR@FPIR(0.01) for 1:N data and 9% increase on TPR@FPR(0.001) for 1:1 testing protocol.

• Developed a new specific face match recognition model to recognize a masked face on a surveillance scene. Achieved 92.05% Top 1 accuracy for 1:N and 95.6% TPR@FPR(0.001) for 1:1 testing protocol on nodeflux Indonesian masked dataset, this increases the performance for nearly 40% on masked dataset compared to the normal face recognition model.

• Developed analytic tools to automate 90% percent of the process on the face match data acquisition and annotations, with the objectives to reduce the acquisition and annotations times and cost, while also increasing the amount of the data being gathered.

• Developed new models of face detection that improved the accuracy of face detection in the wild, while also reducing nearly 40% of its resource consumption, by adopting the existing state-of-the-art model to our solutions.

Crowd Estimation, Vehicle Analytics, and Segmentation Model Development (2018 - 2020)

• Developed a new version of crowd estimation analytics, that improves the analytics performance significantly on various scenes and reduces resource consumption by 40%. Improved by streamlining the analytics pipeline and adopting a new method for crowd estimation that was trained using new case-relevant data.

• Developed various models and analytics for some specific small projects, such as trash segmentation analytics for waste monitoring projects, water segmentation analytics for flood monitoring projects, and also some improvement on the vehicle detection analytics.

Bytedance, AI Engineer (August 2018 - December 2018)

NLP Model Development (2018)

• Developed a vulgar classification model for article and video data quality assessment on BABE News platform. The final version achieved a sufficient performance with a recall of more than 85% latest benchmark dataset.

• Developed a news categorization model for article and video data on BABE News platform.

EDUCATION

Master of Electrical Engineering

Minor in Control Engineering • Universitas Indonesia • Depok, Indonesia • 2018 • 3.64

Bachelor of Mechanical Engineering

Minor in Mechanical Engineering • Universitas Indonesia • Depok, Indonesia • 2014 • 3.14