P. AJIE UTAMA

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Google Scholar: Prasetya Ajie Utama

SUMMARY

- I am a research engineer focusing on building products powered by natural language processing, information retrieval, and large language models.
- I previously obtained my PhD from the UKP Lab of Technical University Darmstadt, where I did research on improving robustness and generalization of neural models for language understanding.

EDUCATION

2018 – 2023	**Technical University Darmstadt**, Germany: Ph.D. in Computer Science *Advisor:* Iryna Gurevych *Thesis:* Robustness of Pre-trained Language Models for Natural Language Understanding
2016 – 2018	**Brown University**, USA: M.Sc. in Computer Science *Advisor:* James Tompkin, Pedro Felzenszwalb – *GPA:* 3.85
2011 – 2015	**Universitas Indonesia**: B.Sc. in Computer Science *Advisor:* Bayu Distiawan Trisedya – *GPA:* 3.54

EMPLOYMENT

AI Group, Bloomberg **Research Engineer**
Summer Intern *November 2021 - present*
- I work on retrieval augmented generation pipeline to power Bloomberg Terminal Help Assistant QA systems.
- I work on text embedding modeling and deployment for news article semantic representation used for news duplicate detection and clustering.
- I work on modeling news importance and market-moving scores that are used across Bloomberg News functionalities.

AI Group, Bloomberg **Research Internship**
Summer Intern *June to September 2021*
- I work on developing factuality checking model for generated summaries. In particular, I develop diverse and controllable data generation pipeline to automatically obtain contrastive examples for the model to learn to identify non-factual summaries based on the information in the source input.

UKP Lab, Technical University Darmstadt **AIPHES Project**
Doctoral Researcher *Sept 2018 to April 2022 (expected)*
- I study the behavior of neural networks models for natural language understanding (NLU) tasks such as textual entailment recognition. The goal of my research is to improve the robustness and generalization of NLU models particularly against adversarial and out-of-domain test cases.
- I proposed several learning strategies that mitigate performance drops upon evaluation on the adversarial settings. In addition, I also studied the extrinsic performance of the NLU models on their downstream applications.
- Supervisors: Nafise Sadat Moosavi, Iryna Gurevych

Data Management Group **DBPal Project**
Research Assistant *Summer 2017 & 2018*
- I conducted research on developing end-to-end framework for natural language interface to relational databases. We proposed a synthetic data generation strategies to bootstrap the training of sequence-to-sequence models that map natural language utterances to SQL statements.
- My contributions ranged from the collecting the data, training the models, developing the user-study web application, and writing the papers which are published as a long and demo paper at SIGMOD.
- Supervisors: Carsten Binnig, Ugur Cetintemel

Dattabot **HARA Project**
Software Engineer *2015 – 2016*
- I worked on a range of projects for a budding startup that aims to build a data integration platform in the agricultural domain. My contributions include implementing spatial segmentation algorithms, developing RESTful web services, and designing various distributed text processing algorithms on Hadoop MapReduce and Spark.

Universitas Indonesia **Computer Science Department**
Teaching Assistant *2013 – 2014*
- I held office hours to assist students and helped the class logistics for several courses including Advanced Database and Foundations of Programming.

PEER-REVIEWED PUBLICATIONS

P. Ajie Utama, Joshua Bambrick, Nafise Sadat Moosavi, Iryna Gurevych. 2022. Falsesum: Generating document-level NLI examples for recognizing factual inconsistency in summarization. In Proceedings of The 2022 Annual Meeting of the North America Association for Computational Linguistics.

Kevin Stowe, **P. Ajie Utama**, Nafise Sadat Moosavi, Iryna Gurevych. 2021. IMPLI: Investigating NLI models' performance on figurative language. In Proceedings of the 60th Annual Meeting of the Association for Computational Linguistics.

P. Ajie Utama, Nafise Sadat Moosavi, Victor Sanh, Iryna Gurevych. 2021. Avoiding Inference Heuristics in Few-shot Prompt-based Finetuning. In Proceedings of The 2021 Conference on Empirical Methods in Natural Language Processing (Short Paper).

P. Ajie Utama, Nafise Sadat Moosavi, Iryna Gurevych. 2020. Towards Debiasing NLU Models from *Unknown* Biases. In Proceedings of The 2020 Conference on Empirical Methods in Natural Language Processing.

P. Ajie Utama, Nafise Sadat Moosavi, Iryna Gurevych. 2020. Mind the Trade-off: Debiasing NLU Models without Degrading In-Distribution Performance. In Proceedings of the 58th Annual Meeting of the Association for Computational Linguistics.

Tobias Falke, Leonardo Ribeiro, **P. Ajie Utama**, Ido Dagan, Iryna Gurevych. 2019. Ranking Generated Summaries by Correctness: An Interesting but Challenging Application for Natural Language Inference. In Proceedings of the 57th Annual Meeting of the Association for Computational Linguistics.

Nathaniel Weir*, **P. Ajie Utama***, Alex Galakatos, Andrew Crotty, Ugur Cetintemel, Carsten Binnig. 2020. DBPal: A Fully Pluggable NL2SQL Training Pipeline. In Proceedings of the 2020 ACM SIGMOD International Conference on Management of Data.

P. Ajie Utama*, Nathaniel Weir*, Ugur Cetintemel, Carsten Binnig. 2018. DBPal: A learned NL-interface for databases. Demo Paper in Proceedings of the 2018 International Conference on Management of Data.

P. Ajie Utama, Bayu Distiawan Trisedya. 2015. Spark-gram: Mining frequent N-grams using parallel processing in Spark. In Proceedings of the 2015 International Conference on Advanced Computer Science and Information Systems (ICACSIS).

NON-PEER-REVIEWED PUBLICATIONS

Nafise Sadat Moosavi, **P. Ajie Utama**, Andreas Rücklé, Iryna Gurevych. 2019. Improving Generalization by Incorporating Coverage in Natural Language Inference. arXiv preprint.

P. Ajie Utama, James Tompkin. 2018. Evaluating Attribute-Object Compositionality in Text-Image Multimodal Embeddings. Final Projects. Brown University.

SKILLS

Programming Python, Java, Matlab, R, Javascript, HTML
Framework Pytorch, Matplotlib, Tensorflow, Numpy
Languages English (professional proficiency), Bahasa Indonesia (native), German (beginner)

COURSEWORK

- **Graduate:** Design & Analysis of Algorithms, Machine Learning, Deep Learning (Special Topics in Computational Linguistics), Computational Linguistics (audit), Computer Vision, Creative AI for Computer Graphics, Computer Vision for Graphics & Interaction.
- **Undergraduate:** Discrete Mathematics I&II, Calculus I&II, Foundation of Programming, Data Structures & Algorithms, Operating Systems, Artificial Intelligence, Scientific Computing, Statistics & Probability, Image Processing, Data Mining.

OTHER

- Conference Reviewer: ACL 2020, EMNLP 2020, EMNLP 2021, NAACL 2022
- Professional Memberships: Association for Computational Linguistics (ACL)