

Kemal Maulana Kurniawan

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Education

MSc, Artificial Intelligence

University of Edinburgh, Edinburgh, United Kingdom, 2017

- Thesis: *Exploring Recurrent Neural Network Grammars for Parsing Low-Resource Languages*. Supervised by Frank Keller.
- Graduated with Distinction.
- Courses taken include machine learning and pattern recognition, probabilistic modeling and reasoning, and natural language understanding.

S.Kom., Computer Science (Bachelor's degree)

Universitas Indonesia, Depok, Indonesia, 2015

- Thesis: *Off-Topic Post Detection in Discussion Forums with Anomalous Text Detection Method*. Supervised by Hisar Maruli Manurung.
- Graduated *cum laude* with CGPA of 3.87 (highest is 4).
- Participated in ACM-ICPC Asia-Jakarta 2010 and 2012, Asia-Kuala Lumpur 2011, and Asia-Hanoi 2012.
- Courses taken include linear algebra, statistics and probability, numerical analysis, and natural language processing.

Young Scientist Exchange Program

Tokyo Institute of Technology, Tokyo, Japan, 2014

- Final report: *Predicting Within- and Inter-community Links in Networks*. Supervised by Tsuyoshi Murata.
- Presented the work in the 102nd conference of The Japanese Society for Artificial Intelligence.
- Wrote link prediction module for *NetworkX*, a Python library for manipulating and analyzing networks and graphs.

Publications

IndoSum: A New Benchmark Dataset for Indonesian Text Summarization. Kemal Kurniawan and Samuel Louvan. To appear in *Proceedings of the International Conference on Asian Language Processing (IALP)*. 2018. <https://arxiv.org/abs/1810.05334>.

Toward a Standardized and More Accurate Indonesian Part-of-Speech Tagging. Kemal Kurniawan and Alham Fikri Aji. To appear in *Proceedings of the International Conference on Asian Language Processing (IALP)*. 2018. <https://arxiv.org/abs/1809.03391>.

Empirical Evaluation of Character-Based Model on Neural Named-Entity Recognition in Indonesian Conversational Texts. Kemal Kurniawan and Samuel Louvan. In *EMNLP Workshop on Noisy User-generated Text (W-NUT)*. 2018. <http://aclweb.org/anthology/W18-6112>.

Multi-Task Active Learning for Neural Semantic Role Labeling on Low Resource Conversational Corpus. Fariz Ikhwantri, Samuel Louvan, Kemal Kurniawan, Bagas Abisena, Valdi Rachman, Alfian Farizki Wicaksono, Rahmad Mahendra. In *ACL Workshop on Deep Learning Approaches for Low-Resource NLP (DeepLo)*. 2018. <http://aclweb.org/anthology/W18-3406>.

Employment

Research Scientist Oct 2017 - present
PT YesBoss Group Indonesia (Kata.ai), Jakarta, Indonesia

- Experimented on out-of-vocabulary (OOV) handling for Indonesian entity recognition on conversational texts, achieved a model having roughly 80% micro-averaged F_1 score even when OOV rate is more than 90%, and published the work at EMNLP Workshop on Noisy User-generated Text (W-NUT) 2018.
- Implemented the entity recognition model as a service for production use.
- Experimented on extractive summarization for Indonesian news. Achieved a model having 65% of ROUGE-1, 60% of ROUGE-2, and 64% of ROUGE-L scores.
- Implemented the extractive summarizer as a Python library for production use.

Teaching Assistant Feb 2016 - Jun 2016
Faculty of Computer Science, Universitas Indonesia, Depok, Indonesia

- Led the teaching assistant team for Functional Programming course and prepared materials for the bi-weekly tutorials.
- Prepared project assignment materials and assisted students in weekly tutorials for Advanced Programming course.
- Conducted tutorials for Statistics and Probability course.

Software Engineer Apr 2015 - Jan 2016
PT Dwi Cermat Indonesia (Cermati), Jakarta, Indonesia

- Implemented auto-generation of minified CSS and JavaScript, auto-revert of broken build, and auto-tagging of successful build in production branch using Gulp and Travis CI.
- Implemented Slack webhook integration for error logs, Ansible deployment logs, and Fail2Ban logs.
- Wrote test fixtures creation module with Faker.js, reducing boilerplate code of setting up testing data.
- Implemented captcha and IP blocker with Fail2Ban to protect servers from malicious attacks.

Software Engineer Jan 2015 - Apr 2015
PT Rekan Usaha Mikro Anda (RUMA), Jakarta, Indonesia

- Added SMS notification services to existing RUMA agents web management system.
- Developed balance deduction penalty system for RUMA agents that are dormant for a certain period of time.
- Fixed a critical bug in existing implementation regarding transaction report and agent transfer.
- Developed a simple middleware implementing RESTful API to be used for RUMA's Android application.

Junior Research Assistant, Intern 2013
National University of Singapore, Singapore

- Assisted a research in statistical machine translation under supervision of [Ng Hwee Tou](#) from NUS School of Computing.
- Implemented English-to-Chinese translation system prototype using Moses package based on the existing Chinese-to-English translation system.

	<i>Teaching Assistant</i>	2011 - 2015
	Faculty of Computer Science, Universitas Indonesia, Depok, Indonesia	
	<ul style="list-style-type: none"> • Was responsible for 15 - 20 students in Discrete Math, Linear Algebra, Statistics and Probability, and Data Structures and Algorithms courses. • Conducted tutorials, assisted students in doing their assignments, and graded their works. 	
Talks	<i>NLP for Chatbots</i>	7 August 2018
	Workshop on Machine Learning and Its Application, Telkom University, Bandung, Indonesia	
	<i>Kata.ai's Best Practice for Machine Learning</i>	4 July 2018
	Tech in Asia - Product Development Conference, Menara Mandiri, Jakarta, Indonesia	
	<i>Introduction to AI and NLP</i>	16 December 2017
	Facebook Developer Circle Surabaya: Facebook Goes to Campus, Surabaya, Indonesia	
	<i>Predicting Within- and Inter-community Links in Networks</i>	24 July 2014
	102nd conference of The Japanese Society for Artificial Intelligence, Osaka, Japan	
Projects	<i>torchtext</i>	https://github.com/pytorch/text
	Data loaders and abstractions for NLP using PyTorch. Contributed to this project by implementing a field class to contain characters of words. This field is essential to use character embedding with torchtext and PyTorch. Role: contributor.	
	<i>pytorch-crf</i>	https://github.com/kmkurn/pytorch-crf
	Conditional random field in PyTorch. I am the author of this project. Role: author.	
	<i>id-nlp-resource</i>	https://github.com/kmkurn/id-nlp-resource
	A list of Indonesian NLP resources. I gathered links to publicly available Indonesian NLP resources. As a low resource language, it can be hard to find NLP resources for Indonesian, which is why I created this repository. Role: author.	
	<i>NetworkX</i>	https://networkx.github.io
	A Python package for creation, manipulation, and study of networks and graphs. Contributed to this project by writing the link prediction module. Role: contributor.	
Honors and Awards	Indonesia Endowment Fund for Education Scholarship	2016
	2nd Runner-Up, Gemastik 5 Programming Competition (national-level)	2012
	4th Runner-Up, ITB Programming Contest (national-level)	2011
Certifications	Data Analysis and Statistical Inference by Duke University on Coursera	2015
	Statistical Learning by Stanford University on Stanford Online	2015
Skills	Natural languages	Indonesian, English, Japanese, Javanese
	Programming languages	Python, Bash, LaTeX
	Operating Systems	macOS, Ubuntu, Arch Linux
Links	LinkedIn profile	http://id.linkedin.com/in/kemalmaulana
	Github profile	https://github.com/kmkurn
	Gitlab profile	https://gitlab.com/kmkurn
	Personal website	http://kkurniawan.com