Adhiguna Surya Kuncoro

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EDUCATION

Carnegie Mellon University — **Pittsburgh, PA, USA**

Master of Science in Language and Information Technologies — Aug 2015-Aug 2017 (Expected)

- Research Master's degree, with emphasis on the intersection between natural language processing and machine learning.
- **Advisor:** Professor **Chris Dyer** (also collaborate closely with Professors **Noah Smith** and **Graham Neubig**).
- **Research area:** Natural Language Processing for low-resource languages, including machine learning methods (especially neural networks) in structured prediction tasks, multi-lingual learning, and multi-modal machine learning,
- **Coursework:** Algorithms for NLP (A), Introduction to Machine Learning PhD Level (A), Advanced Multi-Modal Machine Learning (A+), Machine Translation (A), Deep Learning (A+), Language and Statistics (A), Directed Research (A+)
- **CGPA: 4.07** out of 4.33

University of Oxford — **Oxford, UK**

Master of Science in Computer Science — Oct 2013-Oct 2014

- **Advisor:** Professor **Phil Blunsom**
- **Thesis:** Cross-Lingual Log Bi-Linear Dependency Parsing (Distinction Mark)
- **Selected Coursework:** Computational Linguistics, Machine Learning, Advanced Machine Learning, Knowledge Representation and Reasoning, and Intelligent Systems.

Bandung Institute of Technology (ITB) — **Bandung, Indonesia**

Bachelor of Engineering in Informatics Engineering — Aug 2009-Oct 2013

- **Advisor:** Professor **Ayu Purwarianti**
- **Thesis:** Ensemble and Self-Training Techniques for Indonesian Dependency Parsing.
- Created one of the first and biggest Indonesian Dependency Treebank at the time (approximately 15k tokens).
- **CGPA: 3.83** out of 4.00 (Top 5% of Graduating Class).

CONFERENCE PROCEEDINGS

What Do Recurrent Neural Network Grammars Learn About Syntax?

Adhiguna Kuncoro, Miguel Ballesteros, Lingpeng Kong, Chris Dyer, Graham Neubig, and Noah A. Smith

In Proceedings of EACL 2017 Main Conference (Long Paper), Valencia, Spain

Distilling an Ensemble of Greedy Dependency Parsers into One MST Parser

Adhiguna Kuncoro, Miguel Ballesteros, Lingpeng Kong, Chris Dyer, and Noah A. Smith

In Proceedings of EMNLP 2016 Main Conference (Long Paper), Austin, TX, USA

Recurrent Neural Network Grammars

Chris Dyer, Adhiguna Kuncoro, Miguel Ballesteros, and Noah A. Smith

In Proceedings of NAACL 2016, Main Conference (Long Paper), San Diego, CA, USA

WORKSHOP PROCEEDINGS

Cross Modal Content-Based Objective for Learning Adequate Multimodal Representations

Adhiguna Kuncoro*, Akash Bharadwaj*, Seungwhan Moon*, Volkan Cirik*, Chris Dyer, and Louis-Philippe Morency

In International Conference of Machine Learning (ICML) 2016 Workshop on Multi-View Representation Learning, New York, NY, USA

* indicates joint first authorship

PRE-PRINTS

Dependency Parsing with LSTMs: An Empirical Evaluation

Adhiguna Kuncoro, Yuichiro Sawai, Kevin Duh, and Yuji Matsumoto *(ArXiv)*

RESEARCH EXPERIENCE

Visiting Research Assistant **Seattle, WA**
Computer Science & Engineering, University of Washington - Seattle May – Jul 2016

- **Host:** Professor **Noah A. Smith**
- Working on neural network models for structured prediction problems.

Graduate Research Assistant **Pittsburgh, PA**
Language Technologies Institute, Carnegie Mellon University Sep 2015 – Aug 2017

- **Research Project:** Low-Resource Languages for Emergent Incidents (**LORELEI**), funded by the US Defense Advanced Research Projects Agency (DARPA). The LORELEI project aims to enable rapid deployment of NLP tools for disaster response in low-resource languages through unsupervised and multi-lingual approaches.
- **Research Area**: Cross-Lingual and Multi-lingual named entity recognition (NER), led by Professor Noah Smith.

Nara Institute of Science and Technology (NAIST) **Nara, Japan**
Research Intern, Computational Linguistics Laboratory Feb – Jun 2015

- **Advisors:** Professors **Kevin Duh** and **Yuji Matsumoto**
- **Research Project:** Transition-based Dependency Parsing with LSTM. Achieved competitive result with the strongest feed-forward neural network at the time, with more than 4% improvement in F1 for long-range dependencies.

WORK AND LEADERSHIP EXPERIENCE

The World Bank **Jakarta, Indonesia**
Innovative Developer and Researcher, Asia Knowledge and Innovation Laboratory Aug – Dec 2013

- Led a team of two to develop an Android news-reader mobile app that allows for real-time reporting and greater transparency of the government's community-based poverty eradication programs.

Accenture **Jakarta, Indonesia**
Intern May – Aug 2012

- Participated in an SAP re-implementation project at PT Indosat, the second largest telecommunication company in Indonesia, specializing in the Finance Module. Assigned with a full sub-module that is normally assigned to full-time employees.

CMU Indonesian Students Association **Pittsburgh, PA, USA**
President Nov 2015 – Current

- Led the student organization that aims to promote Indonesian culture in the CMU and wider Pittsburgh community through cultural and culinary events. Nearly doubled the organization's fundraising revenue from the previous year.

ITB Informatics Student Union **Bandung, Indonesia**
President Mar 2012 – Mar 2013

- Led more than 400 members of the student union, presiding over the 22-people executive board that planned and oversaw the union's activities for the year. Elected as one of the youngest in the organization's history, I initiated two new community service activities during my term, one of which received media coverage.

AWARDS AND ACHIEVEMENTS

Graduate Research Fellowship **Pittsburgh, PA, USA**
Recipient Sep 2015

- Selected for the research fellowship, with full funding that covers tuition, fees, travel expenses, and monthly stipend.
- Scholarship value: USD ~75,000 per year for two years of master's study.

ITB Best Student Award **Bandung, Indonesia**
Third Winner May 2012

- Selected as one of the three winners of the best student award, conferred by the Rector of ITB. Only **three** awards are given each year from **more than 6,000** students (**~0.05% award rate)**. Selected based on academic performance, extracurricular achievements, and research contribution.
- Also selected (first winner) as the **best student** of the Informatics Engineering Department (out of 99) and the School of Electrical Engineering and Informatics (out of 350).

SKILLS & TEST SCORES

Languages: Indonesian (native), English (excellent), and German (basic)
Technical Skills: C++, Java, Python, MATLAB. Theano and DyNet deep learning libraries.
Standardized Test Scores: GRE **: 5.0** analytical writing (93rd percentile), **335** out of 340 (**168** quantitative, 95th percentile, **167** verbal, 98th percentile)