Edward Edberg Halim

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RESEARCH INTERESTS

Natural Language Processing, Multimodal and Machine Learning Applications.

EDUCATION

Surya University, Tangerang, Indonesia   2014 - 2018

B.Eng. in Physics - Energy Engineering, GPA: 3.57/4.0

Advisor: Niki Prastomo, Eni Sugiarti, Robi Sobirin

Thesis: Oxidation Resistance of Aluminum Silicide Coating on Inconel 625 Substrate.

EXPERIENCE

Astra Insurance, Jakarta, Indonesia   Nov. 2019 - Aug. 2021

Data Scientist

- Detected fraud cases in hospitals by using statistics and machine learning approach.

Boston University, MA, USA   Jul. 2019 - Dec. 2020

Remote Researcher

Advisor: Derry T. Wijaya

- Built a user-friendly and interactive web-based system that allows researchers to conduct computational framing analysis without having to write code. (EMNLP 2021)
- Identified the news frame of a given news article based on its lead image, as well as some textual background/world knowledge of the image. **The model achieved 87% accuracy on articles with relevant images.** (EMNLP 2021)

University of Chicago, IL, USA   Oct. 2018 - Nov. 2019

Remote Researcher

Advisor: Haryadi S. Gunawi

- Explored the best combination of features to improve the accuracy of neural network model and studied the performance of neural network models from heavy to light on Microsoft Azure traces.
- **Reduced the average I/O latencies by 9.6-79.6% with 87-97% inference accuracy and 4-6µs inference overhead for each I/O.** This work (LinnOS) became the state-of-the-art method and was accepted in OSDI 2020.

Indonesian Institute of Sciences, Banten, Indonesia   Jan. 2018 - Jun. 2018

Metallurgy Researcher

Advisor: Niki Prastomo, Eni Sugiarti

- Synthesized a protective layer on Inconel 625 substrate with pack cementation method.
- Tested the material in 1000°C furnace for 100 hours.
- Evaluated the coatings morphology with Field emission scanning electron microscope (FESEM) and X-ray diffraction (XRD).

Baryon Hasta Persada, Banten, Indonesia   Jan. 2017 - Apr. 2018
Engineering Intern
Advisor: Rudi Irawan
- Created a pressure loss calculator for the installation of evaporative cooling system.

PUBLICATIONS

[1] ***"LinnOS: Predictability on Unpredictable Flash Storage with a Light Neural Network".***
Mingzhe Hao, Levent Toksoz, Nanqinqin Li, **Edward Edberg Halim**, Henry Hoffmann and Haryadi S. Gunawi. *In the 14th USENIX Symposium on Operating Systems Design and Implementation (OSDI), 2020.*

[2] ***"Detecting Frames in News Headlines and Lead Images in U.S. Gun Violence Coverage"***
Isidora Tourni, Lei Guo, Taufiq Daryanto, Fabian Zhafransyah, **Edward Edberg Halim**, Mona Jalal, Boqi Chen, Sha Lai, Hengchang Hu, Margrit Betke, Prakash Ishwar and Derry Tanti Wijaya. *In the Conference on Empirical Methods in Natural Language Processing (EMNLP), 2021.*

[3] ***"OpenFraming: Open-sourced Tool for Computational Framing Analysis of Multilingual Data"***
Vibhu Bhatia, Vidya Prasad Akavoor, Sejin Paik, Lei Guo, Mona Jalal, Alyssa Smith, David Assefa Tofu, **Edward Edberg Halim**, Yimeng Sun, Margrit Betke, Prakash Ishwar and Derry Tanti Wijaya. *In the Conference on Empirical Methods in Natural Language Processing (EMNLP), 2021.*

THESIS

[4] ***"Oxidation Resistance of Aluminum Silicide Coating on Inconel 625 Substrate"***
Edward Edberg Halim, Robi Sobirin, Eni Sugiarti, and Niki Prastomo. *Undergraduate Thesis. Surya University, 2018.*

UNIVERSITY SERVICES

Student Council - Sports Division   2017 - 2018

HONORS & AWARDS

Dean's List   2015 - 2016

GRANTS

Operating Systems Design and Implementation (OSDI) Diversity Grant   2020

TECHNICAL SKILLS

Data Science:	Python, PyTorch, Tensorflow, Sci-kit Learn, SQL
Robotics:	ROS 2, RaspberryPi
Web Development:	HTML, CSS, Bootstrap, JavaScript, jQuery, GitHub, Node, Express, APIs, MongoDB, React