

Edward Edberg Halim
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RESEARCH INTERESTS

Natural Language Processing, Computer Vision, Machine Learning and Robotics.

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 - Present
Data Scientist

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

Boston University, MA, USA Jul. 2019 - Present
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.
- 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 74% accuracy on all 9 news frames.**

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 4-6 μ s 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.

MANUSCRIPTS

- [2] "*OpenFraming: We brought the ML; you bring the data. Interact with your data and discover its frames*"

Alyssa Smith, David Assefa Tofu, Mona Jalal, **Edward Edberg Halim**, Yimeng Sun, Vidya Akavoor, Margrit Betke, Prakash Ishwar, Lei Guo and Derry Tanti Wijaya. *Manuscript in preparation*.

- [3] "*Detecting Frames in News Headlines and Lead Images in U.S. Gun Violence Coverage*"

Sha Lai, Mona Jalal, **Edward Edberg Halim**, Boqi Chen, Hengchang Hu, Lei Guo, Margrit Betke, Prakash Ishwar and Derry Tanti Wijaya. *Manuscript submitted for publication*.

- [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, SQL

Machine Learning: PyTorch, Tensorflow, Sci-kit Learn

Robotics: ROS 2

Web Development: HTML, CSS, Bootstrap, JavaScript, jQuery, GitHub, Node, Express, APIs, MongoDB, React