

Edward Edberg Halim
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RESEARCH INTERESTS

Computer Systems, Machine Learning, and Computer Architecture.

EDUCATION

Surya University, Tangerang, Indonesia Aug. 2014 - Nov. 2018
B.Eng. in Physics - Energy Engineering (Cum Laude) GPA: 3.57/4.0
Advisor: Niki Prastomo, Eni Sugiarti, Robi Sobirin
Thesis: Oxidation Resistance of Aluminum Silicide Coating on Inconel 625 Substrate.

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.*

EXPERIENCE

- Virginia Tech**, VA, USA Aug. 2022 - Present
Remote Research Assistant (Memory Disaggregation)
Advisor: Huaicheng Li
- Processed and visualized Google workload traces. Potentially could improve the system from the insight. (*C, Python, Bash*)
- Carnegie Mellon University**, PA, USA Jun. 2022 - Aug. 2022
Remote Research Assistant (Memory Disaggregation)
Advisor: Huaicheng Li
- Analyzed Google memory trace files in order to optimize the system. (*C, Python, Bash*)

Astra Insurance, Jakarta, Indonesia
Data Scientist

Nov. 2019 - Aug. 2021

- Detected fraud cases in hospitals by using statistics and machine learning. (*Python*)

Boston University, MA, USA

Jul. 2019 - Dec. 2020

Remote Research Assistant (Multimodal - NLP and Computer Vision)

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 Research Assistant (Machine Learning for Systems)

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

Research Assistant (Metallurgy)

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).

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

Programming Languages: C/C++, Python, Bash

Data Science: PyTorch, Tensorflow, Sci-kit Learn, SQL, Matplotlib

Robotics: ROS 2, RaspberryPi

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