
NOVRIADI ANTONIUS SIAGIAN

Ph.D. in Computer Science | Ir. (Professional Engineer)

Medan, North Sumatra, Indonesia

novriadi.antonius95@gmail.com

Google Scholar: scholar.google.co.id/citations?user=r7GjqRwAAAAJ

PROFESSIONAL SUMMARY

I am a Computer Science Ph.D., Data Science Lecturer, and Software Developer with experience in machine learning, data analysis, web development, and digital solutions. I help clients build reliable systems, analyze data, develop intelligent applications, and improve their digital presence with practical, research-based, and result-oriented solutions.

EDUCATION

Doctor of Philosophy (Ph.D.) in Computer Science

Universitas Sumatera Utara (USU), Medan, Indonesia | 2022 - 2026

Dissertation: IoT Motion Tracking with Selective-Gated LSTM for Driver Safety Control

<https://www.joig.net/show-108-537-1.html> (Scopus Q3)

Proceedings: Analysis of Visual Sequences for Driver Drowsiness Detection

<https://ieeexplore.ieee.org/abstract/document/11254822/> (IEEE)

Professional Engineer (Ir.) Certification

Institut Teknologi Indonesia

Master of Science (M.Sc.) in Informatics Engineering

Universitas Sumatera Utara (USU), Medan, Indonesia | 2018 - 2020

Thesis: Feature Weighting Using Gain Ratio to Improve Accuracy of Naïve Bayesian Classifier

Bachelor of Science (B.Sc.) in Informatics Engineering

Universitas Lancang Kuning (UNILAK), Pekanbaru, Indonesia | 2013 - 2017

Thesis: Decision Support System for Department Selection Using Analytical Hierarchy Process (AHP)

PROFESSIONAL EXPERIENCE

Lecturer – Data Science

Universitas Katolik Santo Thomas, Medan | Sep 2023 - Present

- Teach undergraduate courses in Data Science, Machine Learning, and Statistical Analysis
 - Supervise student research projects and mentor thesis candidates in applied machine learning
 - Conduct research in clustering algorithms, classification methods, and deep learning architectures
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Lecturer – Informatics Engineering

Universitas Mikroskil, Medan | Sep 2021 - Aug 2023

- Delivered lectures on Software Engineering, Web Development, and Database Systems
 - Developed curriculum materials integrating modern frameworks and industry best practices
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Software Engineer

PT X, Indonesia | **Apr 2017 - Apr 2021**

- Designed and developed web-based enterprise applications using PHP, JavaScript, and modern frameworks
- Implemented RESTful APIs and managed full software development lifecycle from requirements gathering to deployment
- Collaborated with cross-functional teams to deliver scalable and maintainable software solutions

Web Developer

Freelance / Independent Projects | **Jan 2018 – Present**

- Designed and developed web-based enterprise applications using PHP, JavaScript, and modern frameworks
- Implemented RESTful APIs and managed full software development lifecycle from requirements gathering to deployment
- Collaborated with cross-functional teams to deliver scalable and maintainable software solutions

Journal & Research Publication Assistant

Academic and Research Projects | **2023 – Present**

- Assisted in managing scientific journal publication processes and manuscript preparation
- Supported article formatting, citation management, and plagiarism checking for academic publications
- Helped researchers and lecturers prepare manuscripts for national and international journals
- Provided technical support for Open Journal Systems (OJS) and journal website management

SELECTED PUBLICATIONS

International Journals & Conferences

- [1] N.A. Siagian, M. Zarlis, Z. Situmorang. "Analysis of Neural Network Algorithm in Determining High School Student Department," *IOP Conference Series: Materials Science and Engineering*, 725(1), 012109, 2020. DOI: [10.1088/1757-899X/725/1/012109](https://doi.org/10.1088/1757-899X/725/1/012109)
- [2] N. Zendrato, H.W. Dhany, N.A. Siagian, F. Izhari. "Bigdata Clustering Using X-Means Method with Euclidean Distance," *Journal of Physics: Conference Series*, 1566(1), 012103, 2020. DOI: [10.1088/1742-6596/1566/1/012103](https://doi.org/10.1088/1742-6596/1566/1/012103)
- [3] Alex Rikki, N.A. Siagian, Donalson Silalahi. "Heuristic-Based Backpropagation Algorithm Parameter Optimization to Improve Accuracy Study Program Prediction as an Effort to Achieve Quality Education," *Mathematical Modelling of Engineering Problems*. <https://doi.org/10.18280/mmep.121228>

National Journals & Conferences

- [1] N.A. Siagian. "Analisis Algoritma Support Vector Machine dengan Naïve Bayes Kernel pada Klasifikasi Data," *Prosiding SiManTap: Seminar Nasional Matematika dan Terapan*, 1, 595–598
- [2] N.A. Siagian. "Comparative Analysis of Accuracy in Identifying Types of Glass," *InfoTekJar: Jurnal Nasional Informatika dan Teknologi Jaringan*, 5(2), 283–294, 2021. DOI: [10.30743/infotekjar.v5i2.3655](https://doi.org/10.30743/infotekjar.v5i2.3655)
- [3] N.A. Siagian, A. Rikki, P.B.N. Simangunsong. "Clustering Menggunakan Metode K-Medoids dengan Pendekatan Manhattan Distance," *KAKIFIKOM: Kumpulan Artikel Karya Ilmiah Fakultas Ilmu Komputer*, 6(2), 2024
- [4] N.A. Siagian. "Penanganan Data Ketidakseimbangan dalam Pendekatan SMOTE Guna Meningkatkan Akurasi Algoritma K-NN," *Seminar Nasional Inovasi Sains Teknologi Informasi Komputer (SNISTIK)*, 2024
- [5] N.A. Siagian, Syahril, A. Barus, R.L.H. Tamba. "A Digital Library for Researchers, Scientists, and Scholars: Mendeley Desktop Application," *Book Chapter (ResearchGate)*, 2022
- [6] N.A. Siagian, M.J.F. Sirait, Pristiwanto. "Mendeley As A Reference Management and Citation Generator for Academic Articles," *Community Service Publication*

Doctoral Dissertation

- [7] N.A. Siagian, P. Sihombing, Amalia, A. Candra. "Model IoT Motion Tracking dengan Pendekatan Long Short-Term Memory untuk Mengontrol Keselamatan Pengendara," *Universitas Sumatera Utara Repository*, 2026

RESEARCH INTERESTS

Clustering Algorithms • Robust Machine Learning • Adaptive Centroid Optimization • Deep Learning • Feature Engineering • Intelligent Data Analytics

TECHNICAL SKILLS

Programming	Python, JavaScript, PHP, SQL
Frameworks	React, Vue.js, Express.js, Node.js, Laravel, TensorFlow, Scikit-learn
Data Science	Pandas, NumPy, Matplotlib, XGBoost, SMOTE, RapidMiner, WEKA
Deep Learning	LSTM, ResNet, CNN, Neural Networks, SG-LSTM
Databases	MySQL, PostgreSQL, MongoDB
DevOps & Tools	Git, Docker, Linux, REST APIs, Agile/Scrum
Design & Media	Adobe Photoshop, CorelDRAW, CapCut, Canva
Digital Marketing	SEO, SEM, Content Strategy, Copywriting, Social Media Marketing
Languages	Indonesian (Native), English (Professional Working Proficiency)

PROFESSIONAL CREDENTIALS

- **Professional Engineer (Ir.)** – Institut Teknologi Indonesia
- **Google Scholar Profile** – 21+ Citations, h-index: 3

REFERENCES

Available upon request.