Gabriel Jonathan

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Profile

Tech guy from Institut Teknologi Bandung with expertise in mathematical modelling, AI/ML, software development, Cyber Security, and IT GRC (Governance, Risk, Compliance). Currently busy transforming, developing and implementing IT GRC methodology and system information platform at BCA. Very eager to utilize my skills and experience to tackle challenging problems.

Education

Institut Teknologi Bandung *Bandung, Indonesia*
M.Si, Master of Science in Mathematics *Aug 2022 - June 2023*
- Grade: 3.92/4.00
- Enrolled in the Fast Track Program. GTA 100 Scholarship Awardee.

Institut Teknologi Bandung *Bandung, Indonesia*
S.Si, Bachelor of Science in Mathematics *Aug 2018 - July 2022*
- Grade: 3.89/4.00
- **Courses:** Data Analysis, Deep Learning, Probability Theory, Mathematical Statistics, Mathematical Modelling, Linear Algebra, Coding Theory

Work Experience

Bank Central Asia (BCA) *Jakarta, Indonesia*
Cyber Security Risk - IT GRC *June 2023 - NOW*
- Responsible for end-to-end development and implementation of Cybersecurity & IT Governance, Risk, and Compliance (GRC).
- Developed and implemented GRC framework in accordance with various regulatory requirements and best practices (OJK, NIST, ISO 27001/27002/27005, COBIT, ITIL, etc)
- Designed and developed the GRC Web Application, enabling centralized risk assessment and monitoring capabilities. Built an initial version of it from scratch.
- Performed cybersecurity and IT risk assessment to identify vulnerabilities and design flaws
- Tech Stack used: Linux, Apache, nginx, PostgreSQL, Cloud Computing (AWS, GCP), IIS, Next.js

Witteveen+Bos *Jakarta, Indonesia*
Project Intern *April 2022 - June 2022*
- Collaborated with a team of engineering consultants to develop a numerical simulation and analysis for a project
- Gathered and analyzed the required data for the simulation
- **Tech used** : MATLAB, HEC-RAS

Zenius *Jakarta, Indonesia*
Content Operations Intern *June 2021 - Aug 2021*
- Managing the trackers for Zenius's content creation, including the timelines via dashboard and monthly report.

Institut Teknologi Bandung *Bandung, Indonesia*
Head of Differential Equations & Numerical Mathematics Laboratory *Aug 2020 - June 2023*
- Managed the whole operation of Differential and Numerical Math Laboratory in ITB
- Supervised and created tasks and modules for over 150+ ITB students.
- **Tech used:** MATLAB, Python with NumPy, Matplotlib, Pandas, SymPy, LaTeX

Projects and Publications

Phishing Scoring
NLP, PyTorch, Flask *Jun 2024*
- Developed NLP based tools to quantify phishing probability from E-Mails based off its text body and URLs
- Build upon PyTorch and Flask. Attained around 93% accuracy

Shoaling Wave Modelling using Physics Informed Neural Networks (PINNs)
CFD, PyTorch, Physics Informed Neural Networks *Jan 2023*
- Developed a neural network model to approximate the solution to PDEs, specifically in this project, the shallow water equations (SWE) to simulate the wave shoaling phenomenon on basins.
- Presented at SEA The Future 2023, an International Conference held in Pattaya, Thailand

Algorithmic Financial Stocks Trading using Convolutional Neural Networks

PyTorch, CNN   *May 2022*

- Transforming a problem in stock trading into an image classification problem.
- The model is built using PyTorch. An accuracy of a 80% is attained

Water Waves Resonance and Its Interaction with Submerged Breakwater

CFD, MATLAB   *March 2022*

- DOI : https://doi.org/10.1016/j.rineng.2022.100343
- A research in computational fluid dynamics, observing the wave resonance phenomenon in basins with breakwater. Numerical simulations were conducted using MATLAB

COVID-19 Awareness Index Classification in Indonesia

Scikit-Learn, Prophet, Pandas   *May 2021*

- Using numerous machine learning models (Prophet, XGBoost, etc) to classify regions in Indonesia based on its inhabitant awareness of the COVID-19 pandemic.
- Analyzing the COVID-19 cases data from various regions in Indonesia.

Skills

Programming Stacks	Python, MATLAB, JavaScript (Node.js, Next.js), SQL, HTML/CSS, R, C++, Cloud Computing
Frameworks	NIST CSF, ISO 27001/27002/27005, COBIT, ITIL, Application Security
Certifications	Google Cybersecurity Certification (Coursera), Cybersecurity Analyst (Cyber Academy Indonesia), Data Analyst with Python (DataCamp), Data Scientist with Python (DataCamp)

Organizations

Mathematics Corporation (MATHCO) ITB

Chief Executive Officer (CEO)   *Nov 2020 - Nov 2021*

- MATHCO is the publisher of the most popular calculus, statistics, and linear algebra tutorial book in ITB.
- Managed the whole operation of MATHCO ITB
- Supervised all department and their task, from budgeting to building collaboration with other parties

Achievements

Gold Medalist and Best Presenter

Mathematical Analysis and Geometry Day (MAGD) XIII ITB   *2022*

A national mathematical analysis and geometry competition held by the Analysis and Geometry Research Group ITB. Competed against more than 300 participants.

Best Presenter

4th International Conference on Applied Sciences, Mathematics and Informatics (ICASMI)   *2022*

International Conference on Applied Science Mathematics and Informatics, participated by more than 150 participants from all over the world.

Meritorious Award

SCUDEM VI Challenge   *2021*

International Mathematical Modelling contest held by SIMIODE. Our team of 3 competed against more than 3000 participants from 12 countries. Achieved top 60% of all participants.

Successful Participant

Mathematical International Modelling (MCM) 2022   *2022*

An international mathematical modelling competition. Competed against more than 15000 participants from 7 different countries.

Participant

SEA The Future International Conference 2023   *2023*

An international conference held in Pattaya, Thailand. Presenting the topic of "Wave Shoaling Phenomenon Modelling using Physics Informed Neural Networks (PINNs)".

Dean List

Faculty of Mathematics and Natural Sciences (FMIPA) ITB   *2018-2022*

Award given for students with excellent academic achievement. Received the award multiple times in 2018-2022 period.