



**Steven Gaillard**

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## EDUCATION

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### **NATIONAL TAIWAN UNIVERSITY OF SCIENCE AND TECHNOLOGY**

Taipei, Taiwan

Master, Civil and Construction Engineering. **GPA 4.20/4.30**

Sept. 2024 – Jul. 2025

Thesis: Optimizing High-Dimensional Steel Structure Design: A Hybrid Framework Integrating Dimensionality Reduction and Metaheuristic Algorithms

Program: Dual Degree Program

Relevant Coursework:

- Nonlinear Structural Behavior

### **PETRA CHRISTIAN UNIVERSITY**

Surabaya, Indonesia

Master, Civil Engineering. **GPA 4.00/4.00**

Mar. 2024 – Jul. 2025

Thesis: Optimizing High-Dimensional Steel Structure Design: A Hybrid Framework Integrating Dimensionality Reduction and Metaheuristic Algorithms

Program: Fast-Track Program, Dual Degree Program

Relevant Coursework:

- Tall Building
- Structural Dynamic

### **PETRA CHRISTIAN UNIVERSITY**

Surabaya, Indonesia

Bachelor, Civil Engineering. **GPA 3.95/4.00**

Aug. 2020 – Mar. 2024

Thesis: Optimization of Earthquake Resistance Reinforced Concrete Portal Using Metaheuristic

## EXPERIENCE

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### **CV. MULTI CONSTRUCT INDONESIA**

Surabaya, Indonesia

**Structural Engineer, Site Engineer, Estimator, QA, QS**

Dec. 2023 – Jul. 2024

- Led the design and analysis of structural systems for residential and commercial projects, including mall, private houses, steel factories, ground water tank, and jetty.
- Ensuring compliance with Indonesian building codes and safety standards, including American building codes such as ACI, ASCE, and AISC.
- Managed on-site operations, coordinating with contractors and ensuring timely project execution while adhering to budget and schedule constraints.
- Estimated material, labor, and time costs for various construction projects, optimizing project budgets and reducing overhead.
- Conducted quality assurance (QA) inspections to ensure all construction processes met regulatory standards and project specifications.
- Performed quantity surveying (QS) duties, calculating material quantities and preparing cost reports to support procurement and project bidding processes.
- Collaborated with the project management team and external consultants to resolve construction issues, improving efficiency and reducing project delays.
- Supervised site safety and compliance, reducing workplace accidents by implementing improved safety protocols.

## **PT. ARCHIMETRIC**

### **Structural Engineer (Intern)**

Surabaya, Indonesia

Jun. 2023 – Dec. 2023

- Assisted in the design and structural analysis of residential and commercial buildings, applying Indonesian and American building codes.
- Performed calculations for load-bearing elements, foundations, and structural integrity under supervision of senior engineers.
- Created detailed construction drawings using AutoCAD and SAP2000, contributing to the project documentation process.

## **RESEARCH AND PUBLICATIONS**

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### **Conferences:**

- Metaheuristic-Guided Structural Design Optimization Enhanced by Dimensionality Reduction Techniques  
*International Conference on Computing in Civil and Building Engineering* Mar. 2026
- A Hybrid Framework for Structural Analysis and Optimization Using Dimensionality Reduction and Metaheuristics  
*The 29th Symposium on Construction Engineering and Management / International Conference* Jul. 2025

### **Papers:**

- HYBRID FRAMEWORK FOR HIGH-DIMENSIONAL STEEL STRUCTURAL OPTIMIZATION WITH DIMENSIONALITY REDUCTION AND METAHEURISTICS  
*China Civil and Hydraulic Engineering Journal* 2026
- An Intelligent Hybrid Framework for Reducing Computational Complexity in High-Dimensional Optimization  
*Dimensi Utama Teknik Sipil* 2026

## **LEADERSHIP AND ACTIVITIES**

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### **PETRA SYNERGIC TEAM**

Surabaya, Indonesia

#### **Freshmen Mentor**

Jun. 2021 – Dec. 2023

- Mentored incoming freshmen, helping them navigate university life and develop personal, academic, and spiritual growth.
- Guided students in understanding how to live a meaningful and successful life through Christian values and principles.
- Organized group activities and discussions aimed at fostering a sense of community and spiritual connection among students.
- Provided academic tutoring and support, helping freshmen adapt to the academic expectations of university life.

## **SKILLS**

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### **Technical:**

- Programming Languages: Python, C++, C
- Software: Microsoft Office, ETABS, SAP2000, RISA, AutoCAD, MATLAB

### **Language:**

- **Indonesian:** Native proficiency (C2)
- **Malay:** Full professional proficiency (C2)
- **English:** Full professional proficiency (C1)
- **Chinese:** Basic proficiency (A2)

### **Laboratory:**

- Proficient in experimental design, data collection, and statistical analysis
- Skilled in database design and querying using SQL for data management and analysis

## AWARDS & HONORS

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- NSTC Scholarship Jul. 2025
- Valedictorian of the 85th Graduation Ceremony of Petra Christian University Mar. 2024
- Cum Laude Representation of the 85th Graduation Ceremony Mar. 2024
- Active Graduate Representation of the 85th Graduation Ceremony Mar. 2024
- Best Civil Engineering Graduate Class of 2020 Mar. 2024
- PT Adaro Indonesia Scholarship 2023-2024 Jun. 2023
- 1<sup>st</sup> winner of Civil Analysis and Photography 2022 Jun. 2022
- Ever-best Benjamin Gideon & Associates Scholarship 2021 Jun. 2021
- Academic Achievement Scholarship 2020 Feb. 2021

## INTERESTS

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- **Programming:** Passionate about developing software solutions and enhancing coding skills in languages such as Python, C++, and MATLAB.
- **Continuous Learning:** Enthusiastic about acquiring new knowledge and skills, particularly in emerging technologies and methodologies.
- **Communication:** Committed to effective communication, both verbal and written, to facilitate collaboration and teamwork.
- **Machine Learning & AI:** Interested in exploring machine learning algorithms and artificial intelligence applications to solve complex problems.
- **Construction Management:** Eager to understand and implement best practices in construction management to optimize project execution and delivery.
- **Structural Engineering:** Dedicated to advancing knowledge in structural engineering principles and innovative design solutions. Ensuring compliance with Indonesian building codes and safety standards.