

# CLEMENT HANSEL

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## About Me

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I'm a **Full-Stack Developer** and aspiring **Senior Software Engineer** with a strong focus on **IoT systems and smart technologies**. I design and deploy scalable, real-world solutions such as **piezoelectric and LiDAR-based sensors, structural health monitoring systems, and smart coastal buoys**. Currently improving safety, data visibility, and operational efficiency in both industrial and smart city contexts. At **PT. Karya Gemilang Utama**, I lead **cross-functional teams** and manage **end-to-end IoT deployments**, ensuring seamless integration from hardware to cloud. My core tech stack includes **TypeScript, Next.js, React, Express.js, Tailwind CSS, PostgreSQL, and MongoDB**, with hands-on implementation of **IoT protocols** like **LoRa and MQTT**. I specialize in **bridging technical execution with project leadership**, translating complex requirements into impactful solutions. Looking ahead, I aim to grow into a **Senior Engineering role**, deepening my expertise in **distributed IoT architecture, edge computing, and AI-driven solutions**. Continuously learning to drive innovation in the evolving world of connected technology.

## Working Experiences

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### Software Engineering

#### Project Manager – IoT & Smart Systems

April, 2024 – Present

PT. Batukarang Kenan Abadi - Pekanbaru, Indonesia

- Led development and delivery of IoT solutions for smart city and industrial use cases.
- Managed hardware-software integration across teams and vendors.
- Delivered 3 MVP systems with GPS, GSM, and real-time dashboards.
- Ensured that the project delivered on time and following the budget.

#### Project Manager – IoT & Smart Systems

April, 2023 – March, 2024

PT. Karya Gemilang Utama - Bekasi, Indonesia

- Designed and Implemented WIM systems to 3 Indonesian major cities in 3 provinces, for Ministry of Transportation (DisHub) and Ministry of General Work (PUPR).
- Unified UPPKB data into a centralized interface for real-time monitoring.
- Led end-to-end development, and on site implementation, coordinated national rollout with lean teams and multiple stakeholders.
- Achieved government compliance and 70% budget efficiency.

#### Technology Specialist (Probation)

February, 2023 – April, 2023

PT. Karya Gemilang Utama - Bekasi, Indonesia

- Built intranet with Next.js, React, and PostgreSQL.
- Increase inter-department communication and reduce human error in production.
- Proposed current technical difficulties and plan for software development to solve the issues.
- Supported calibration and field testing of Weighbridge and WIM systems.

## Other Experiences

#### Sous Chef

November, 2022 – January, 2023

Shikaku - The Dharmawangsa Hotel - Jakarta, Indonesia

#### Sous Chef

September, 2021 – October, 2022

Habitat – Aston Hotel - Jakarta, Indonesia

#### Cook

February, 2020 – October, 2021

Delicatesse Bistro - Tangerang, Indonesia

#### Assistant Sales Manager

December, 2016 – January, 2019

Creatrix Interior - Jakarta, Indonesia

<b>Sales &amp; Marketing Executive (Contract)</b> PT. Multiviscomindo - Jakarta, Indonesia	<b>September, 2015 – June, 2016</b>
<b>Assistant Restaurant Manager</b> Planet Holiday Hotel - Batam, Indonesia	<b>July, 2014 – January, 2015</b>
<b>Cook (Seasonal)</b> Kuala Lumpur Convention Centre - Kuala Lumpur, Malaysia	<b>November, 2012 – May, 2014</b>
<b>Junior Sous Chef</b> Chow Woodward St - Wellington, NZ	<b>November, 2010 – December, 2011</b>
<b>Cook</b> Palm Malaysian Bistro - Lower Hutt, NZ	<b>October, 2009 – November, 2010</b>

## Project Experience

<b>Disaster Mitigation &amp; Monitoring Platform (Demo)</b> BPBD – West Java	<b>March, 2025 – May, 2025</b>
<ul style="list-style-type: none"> <li>Led development of an anomaly detection system with GIS mapping and real-time sensor alerts for BPBD West Java.</li> <li>Collaborated directly with government stakeholders to align technical solutions with operational disaster response goals.</li> <li>Designed and built the system using Next.js, React.js, PostgreSQL (PostGIS), and Leaflet.js.</li> <li>Integrated IoT sensors for real-time data processing and early warning notifications.</li> <li>Delivered a prototype currently under final review for official integration into BPBD's workflow.</li> </ul>	

### [Disaster Mitigation Dashboard](#)

<b>Structure Health Monitoring System (Demo)</b> PT. Graha Survey Indonesia	<b>December, 2024 – March, 2025</b>
<ul style="list-style-type: none"> <li>Designed and deployed a real-time structural monitoring dashboard with alert mechanisms.</li> <li>Led the project from planning to deployment, engaging stakeholders to ensure alignment with operational goals.</li> <li>Developed interactive data visualizations for easier interpretation by maintenance teams.</li> <li>Enabled early risk detection, improving the overall safety and responsiveness of infrastructure management.</li> </ul>	

### [Structure Health Monitoring System Dashboard](#)

<b>Weigh-in-Motion Sensor with Lidar (Deployed)</b> PUPR - DisHub	<b>April, 2023 – March, 2024</b>
<ul style="list-style-type: none"> <li>Developed and deployed a nationwide truck monitoring system integrating weight sensors, Lidar, and national transportation databases.</li> <li>Led on-site implementation and directly trained DisHub personnel for system operations.</li> <li>Coordinated with regulatory bodies to ensure compliance and support future scalability.</li> <li>System supports real-time vehicle monitoring and policy enforcement as part of the UPPKB initiative.</li> <li>Note: Post-deployment details are covered under a Non-Disclosure Agreement (NDA).</li> </ul>	

## Education

<b>Taylor's University, Malaysia</b> <b>Bachelor of Culinary Arts &amp; Food Service Management (Hons)</b> Thesis: The origin of human cultures in relation to culinary arts <a href="#">Link Certification</a>	<b>February, 2012 – August, 2014</b>
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## Organization Experience

<b>Student Cultural Exchange Program</b> Taylor University – Toulouse II University - Toulouse, France	<b>June, 2014 - November, 2014</b>
<ul style="list-style-type: none"> <li>Selected as group Leader and point of contact for 5 members.</li> </ul>	

- Responsible for the group safety, and adherence to exchange program rules.
- Ensured that all members attended daily programs, and presented our culture at the end of the program.
- Ensured that all members create positive relationships and give a positive brand image to locals.

## STEP Program

January, 2013 – April, 2014

**Taylor University – KLCC** – Kuala Lumpur, Malaysia

- Selected for STEP Malaysia Leadership Program.
- Selected as group leader and point of contact for students, Taylor University, and Kuala Lumpur Convention Center.

## Additional Information

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### Technical Skills

- **Languages:** TypeScript, Python, HTML5, CSS3, PHP, SQL, Go
- **Frameworks/Libraries:** React, Next.js, Node.js, Express.js, Tailwind CSS
- **Databases:** PostgreSQL, MongoDB, Firebase
- **DevOps & Infrastructure:** Docker, Kubernetes, CI/CD, Nginx, Cloud Deployment
- **Tools:** VS Code, Git, GitHub, Postman
- **Concepts:** IoT Integration, LoRa, MQTT, REST API, MVC, Responsive Design,
- **Development Methodologies:** Agile, Scrum

### Soft Skills

- Fluent in English and Bahasa Indonesia
- Strong ownership and communication in cross-functional technical teams
- Proven leadership in team building and project execution
- Analytical mindset with expertise in full-cycle system architecture
- Adaptive, proactive, and passionate about driving tech innovation
- Consistently deliver within scope, budget, and timeline

## Certification

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### Software Engineering Certificate

May, 2025

RevoU - Online, Indonesia

[Link Certification](#)

### License Professionnelle Certificate

November, 2014

Toulouse II University - Toulouse, France

[Link Certification](#)

### STEP Program

April, 2014

**Taylor University – KLCC** – Kuala Lumpur, Malaysia

[Link Certification](#)

### Delf A1 Certificate

August, 2013

**Taylor University** - Kuala Lumpur, Malaysia

[Link Certification](#)

### Food Safety Certificate

April, 2010

**Weltec** - Petone, New Zealand

[Link Certification](#)