a Portfolio
Fajri Ilham Mughni

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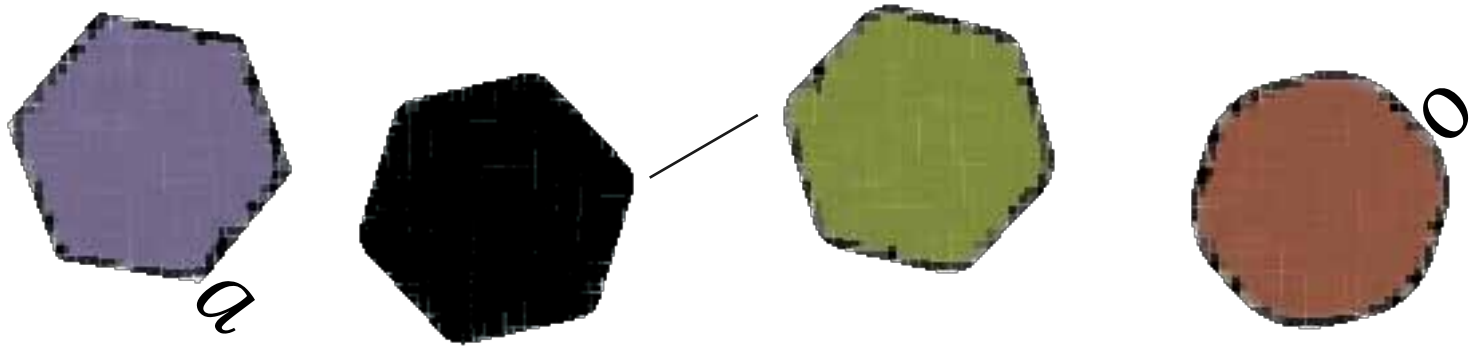
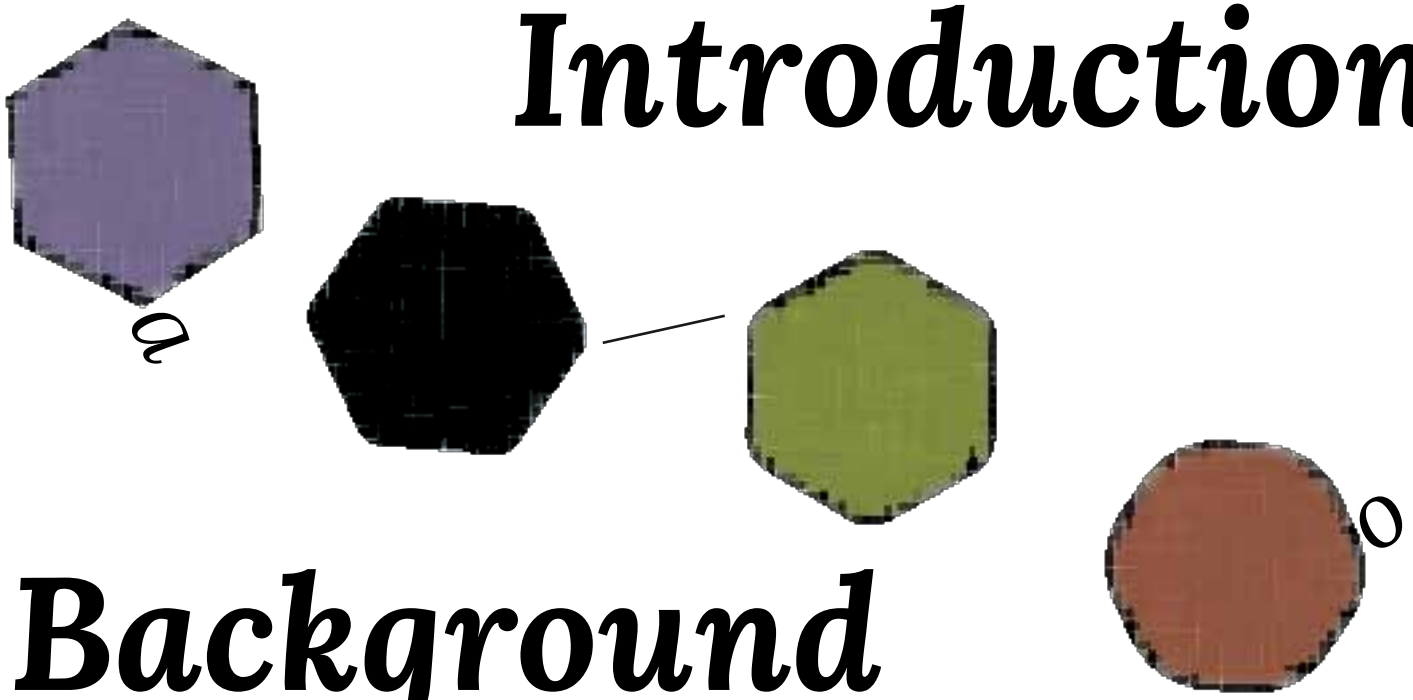


Research, Data, and Technology for Sustainable Change

Introduction



Background

“passionate about connecting data, research, and social impact. With a background in Geological Engineering from ITB and certifications in Data Science, I specialize in transforming complex datasets into actionable insights. I have experience supporting multidisciplinary projects in environmental sustainability, inclusive development, and community-based research. I am committed to systematic thinking, continuous learning, and applying the latest technology to drive meaningful change. My work reflects a deep respect for both technical precision and human-centered approaches, aiming to bridge data with real-world challenges and opportunities.

I was studied at

Bandung Institute of Technology,
Bachelor from Geological Engineering

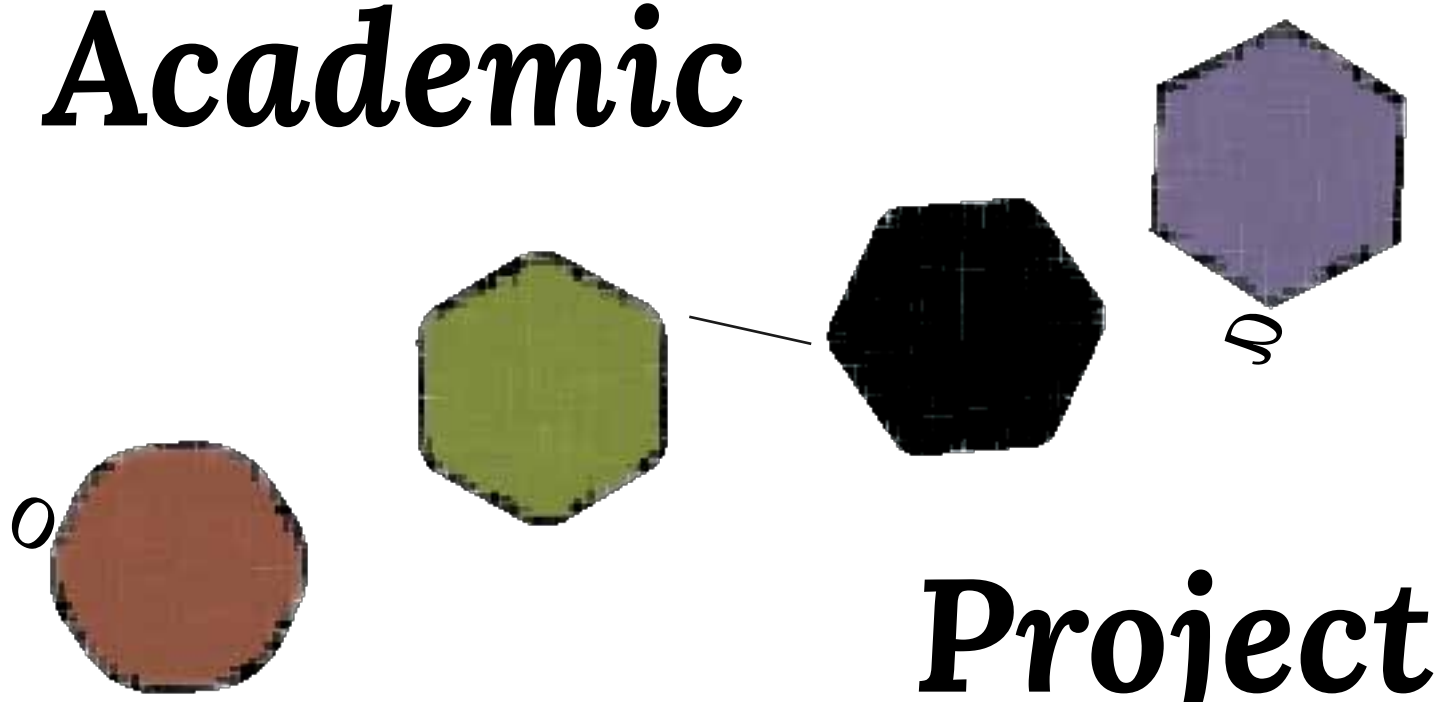
- Qualified on business plan in Competition PEC EXPO 1.0 Unair 2020
- Verbal Commendation Paragon Innovation Circle 2021
- Beasiswa Luar Biasa (BLB) ITB Batch 9, PYC ITB Awardee, Dato' Low Tuck Scholarship Awardee
- HMTG "GEA" ITB 2021's spiritual division manager, the head of fundraising for the 2018 FITB Dewan Perwakilan Angkatan (DPA), a student at Kelas Akal Budi by Sabang Merauke Foundation 2020, and a StudentCatalyst Chapter 2 student in 2018, also author at SuaraGEA 2021

I am working at

Husky-CNOOC Madura Limited,
As Database Management Officer.

- Fulfilled the operational needs of the Subsurface Department by managing over 20,000 folders and 180,000 files through SharePoint and Petrel Studio, merging digital and hardcopy data from various internal and external sources, including the Ministry of Energy and Mineral Resources.
- Strengthened technical capabilities with certifications in ISO 30301:2019, Geospatial Data Analysis, Excel VBA Macro, and Data Science for Subsurface Records.
- I am committed to being a long-life learner at every time and opportunity.

Academic



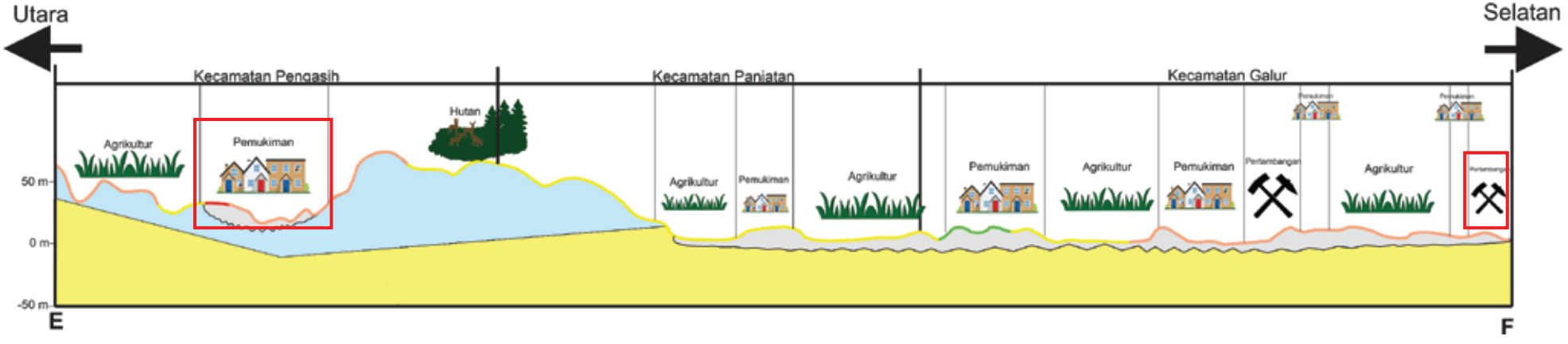
Project

Project 1

Bachelor Thesis Project

Environmental geological evaluation for the development of Sentolo Subdistrict and surrounding area, Kulon Progo Regency, Yogyakarta Special Region.

The Kulon Progo Regency, located in the Special Region of Yogyakarta (DIY), is undergoing rapid development, including the construction of Yogyakarta International Airport (YIA), iron sand mining along the Progo River, and the Sentolo Industrial Area. To support sustainable development, an environmental geological evaluation and land use analysis based on the 2012–2032 Regional Spatial Plan (RTRW) were conducted. The study area covers 168.7 km² across several districts and is mapped using literature review, field surveys, and Analytical Hierarchy Process (AHP) methods. Key assessment criteria included groundwater conditions, accessibility, physical surface characteristics, and disaster vulnerability (volcanoes, earthquakes, landslides, tsunamis, liquefaction). Data sources comprised thematic maps, rock samples, and hydrogeological data, analyzed through digital overlay techniques. The environmental suitability analysis indicated 6.3% Suitable Zone, 74.6% Fairly Suitable Zone, 19.01% Less Suitable Zone, and 0.000059% Not Suitable Zone. Land use evaluation revealed that residential, agricultural, industrial, and mining areas show varying degrees of suitability These findings provide important recommendations for guiding responsible and environmentally aware spatial planning in Kulon Progo Regency.



Project 2

Working Project

Water Well Maintenance and Flexibore Installation at Lessafre Ltd. in Malang Regency.

The Bill of Quantities (BoQ) was created and managed to detail cost estimations and material specifications essential for the project's construction and engineering phases. The overall project budget was coordinated, site arrangements were organized, and necessary construction permits were obtained to ensure regulatory compliance. The monitoring and evaluation of deep wells, particularly those affected by fouling and silting, were conducted using gamma ray logging, flowmetry, and borehole camera inspections. These techniques were applied to assess well conditions accurately, identify structural or operational issues, and recommend necessary maintenance actions. Through this project, strong practices in documentation management, technical evaluation, site coordination, and adherence to compliance standards were reinforced. Each stage of the project was carefully controlled to support operational continuity and ensure sustainable project development.

Project 3

Working Project

Geological Mapping for Sistem Lahan in Kei Islands, Molucaas, Eastern Indonesia

Pre-mapping and post-mapping databases, along with lithological maps, were produced and examined to support geological assessments. A total of 15 sites within a single mapping area in the Kai Islands region were successfully gathered. Collaboration was also conducted with social, soil, and geography mappers to update and refine the land system classification

Project 4

Working Project

Immersion Study Development and MSME Collaboration Project in Larantuka, Nusa Tenggara Timur (NTT)

Game cards and canvases for immersion studies in "solution mapping" were developed through the preparation of training needs and transdisciplinary knowledge in collaboration with the UN Accelerator Lab. Product development and MSME immersion studies were facilitated with the UN Accelerator Lab and the Design Ethnography Lab, resulting in a 100% successful project that strengthened cooperation networks.

Project 5

Working Project

Remote Research Support for LNOB Study on Indigenous Communities in Sumba Barat and Papua Pegunungan

Research initiatives for the "Immersive Study on People with Disabilities in Indigenous Communities" under the LNOB study were supported remotely by gathering secondary data on the food security index, indigenous populations, disaster records, noncommunicable diseases, and armed conflicts in Sumba and Jayawijaya regions, while in-depth interviews with academics, civil society organizations, disabled people's organizations, and disability centers were also conducted and transcribed to strengthen the study outcomes.

Gallery

Academic Project

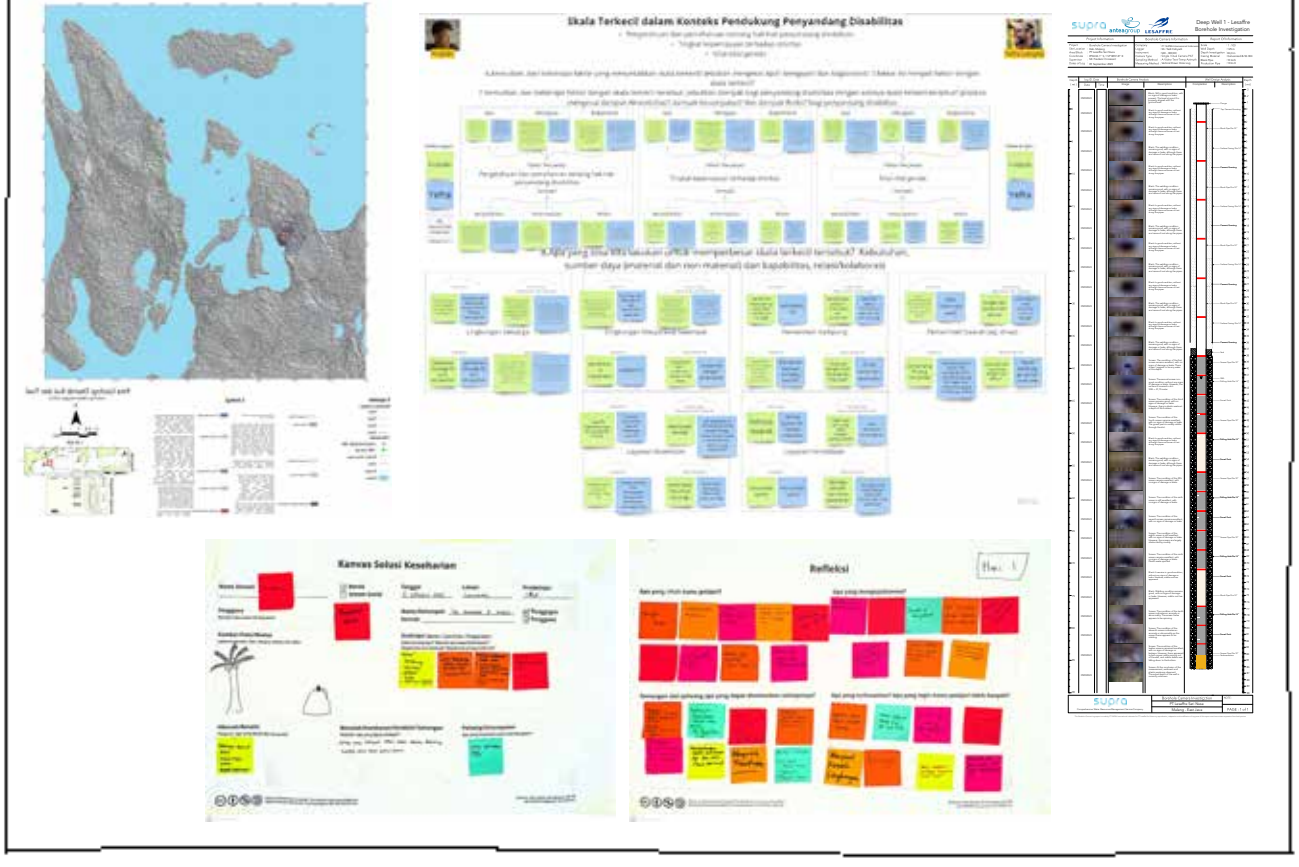
After completing the well maintenance at Well 1, a photo was taken to capture the moment.

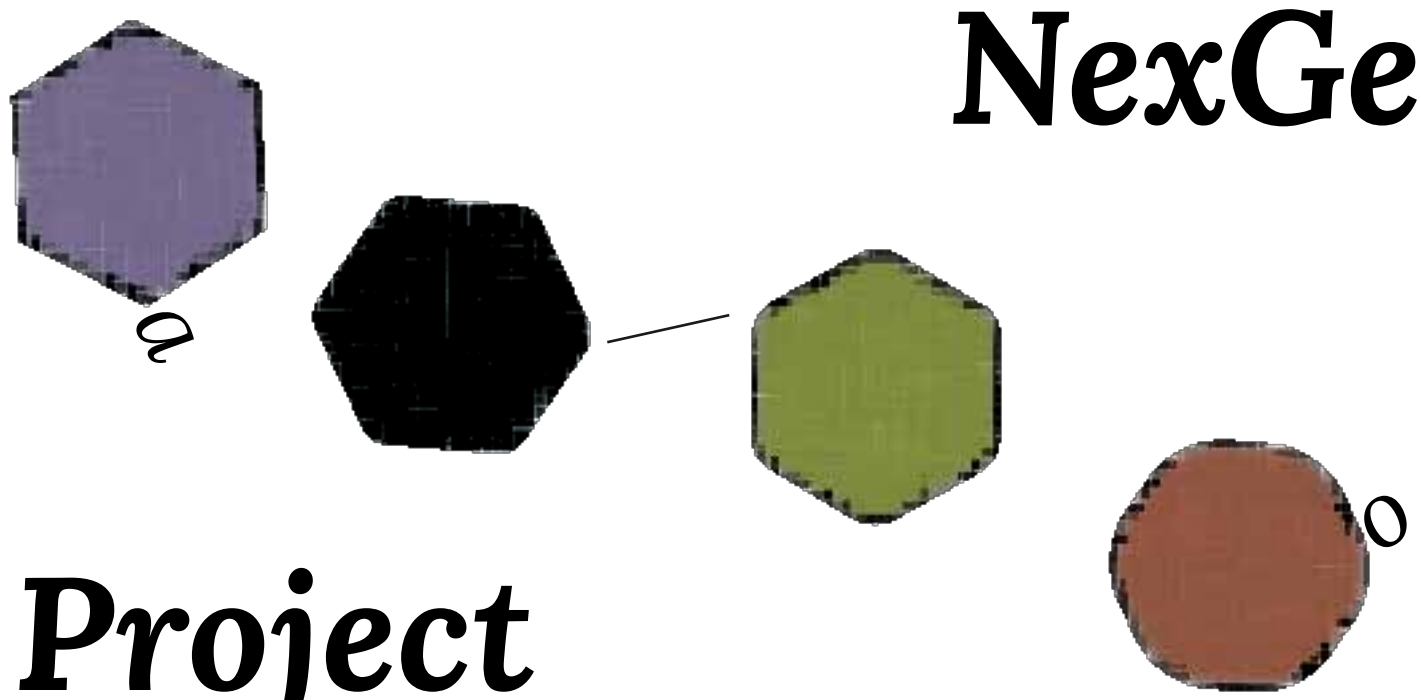
After the solution safari and report presentation, a photo was taken with the team

Geological sites on Pulau Kei Besar were explored, revealing the island's natural beauty.

At the end of Day 1 briefing from UN RCO with the LNOB team in the field (Sumba and Papua)

All the Outcomes

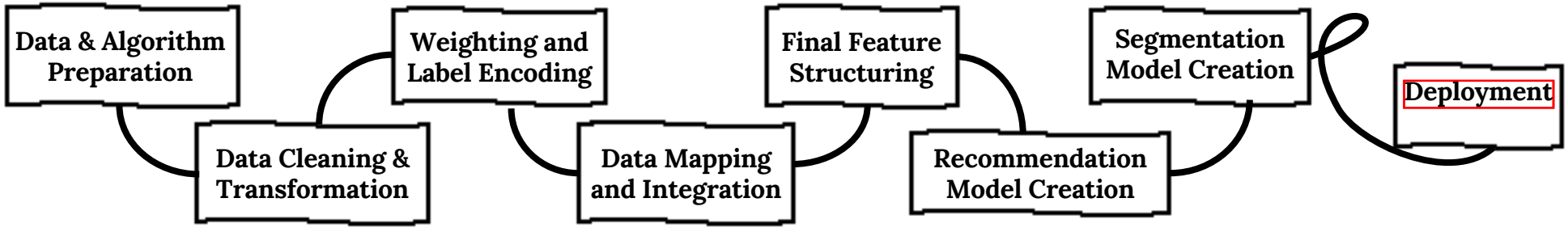



NexGen
Project

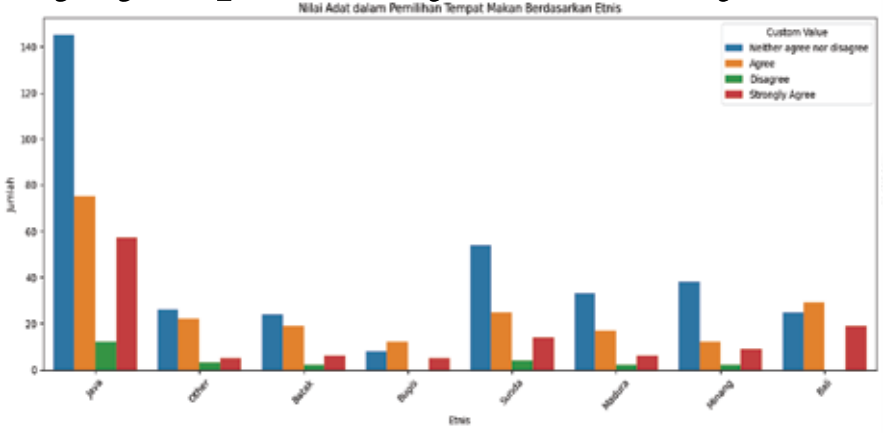
Project A
Final Data Science Project
What do you like... Indonesian Food Recommendation

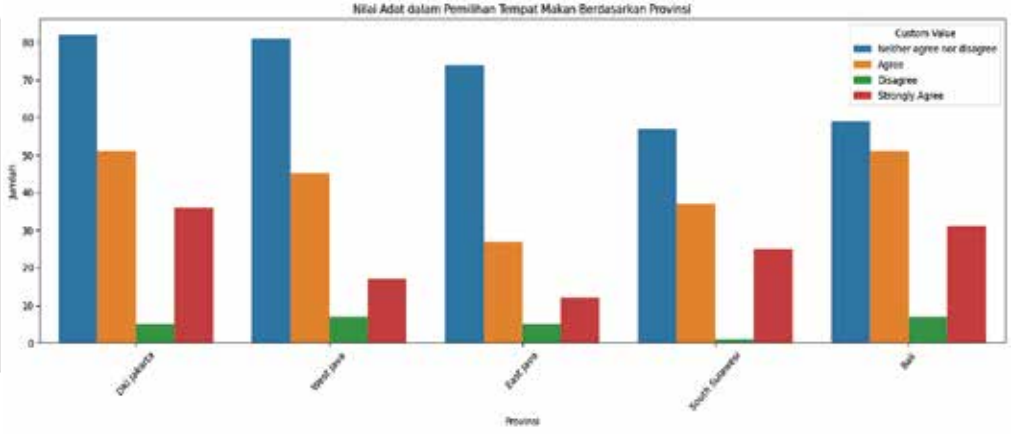
This analysis aims to understand the food preferences of Indonesian society by integrating food consumption data, nutritional information, and traditional Indonesian recipes. Through a process of data cleaning, feature transformation, mapping between recipe ingredients and nutritional content, and clustering techniques using machine learning algorithms, this project produces groupings (clusters) of foods based on calorie content, preference level (loves), and ingredient characteristics. The results of this clustering provide preliminary insights into consumption patterns, nutritional awareness, and the potential segmentation of traditional foods that can be leveraged for consumer behavior research and public health strategy.

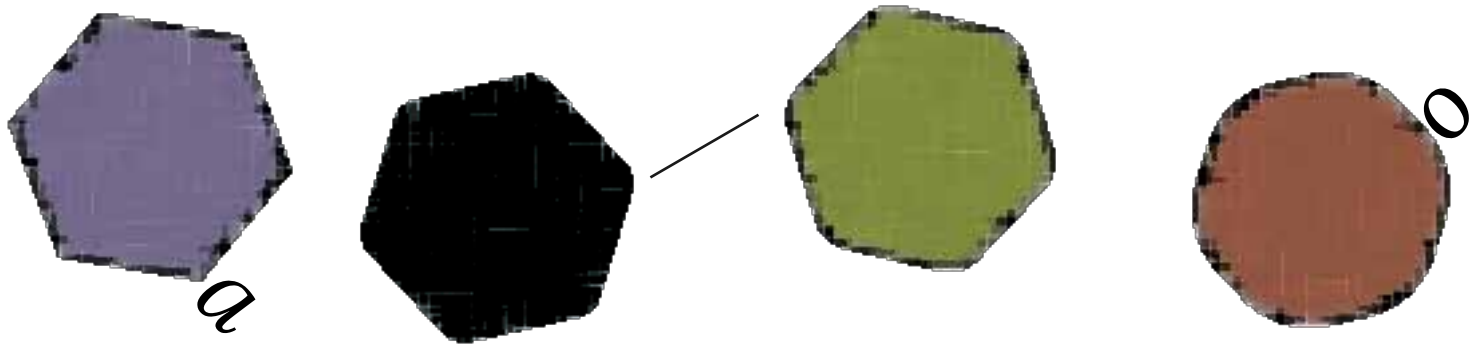
Here are the steps to complete the process



A brief of exploratory data analysis







And the journey has just begun