

A large, abstract orange shape on the left side of the slide, featuring a blue semi-circle with white 'x' marks, a yellow star, and a blue circle with a white dot.

Mentor Sharing Session: **Nakama's** **Day-to-Day** **Activities**

as Data Scientist
@ **tokopedia**

A large, abstract blue shape on the right side of the slide, featuring a yellow semi-circle, a white circle, and a cluster of yellow 'L' shapes.

A cluster of small, light gray circles in the top left corner.An orange paperclip graphic on the right side of the yellow note.An orange pill-shaped graphic at the top center of the yellow note.A solid orange circle in the bottom left corner.An orange abstract shape in the bottom left corner.

Hendy Fergus A. Hura

Sr. Data Scientist (Sept 2021 - Now)



EDUCATIONS

01

SMAN 78

Class of 2007-2009
Accel. Program



02

B.Sc FMIPA UI

Mathematics,
Pure
&
Computational



03

M.Sc FMIPA UI

Applied Math.,
Bioinformatics
&
Pure



04

Math. UI

Researcher,
Advanced
HPC - Laboratory



EXPERIENCES

COMPANY 1



Statistics
&
Mathematics
Lecturer

COMPANY 2



Data
Analyst/Scientist

COMPANY 3



Data Scientist

COMPANY 4



Sr. Data Scientist



Skills & Tools

as Data Scientist





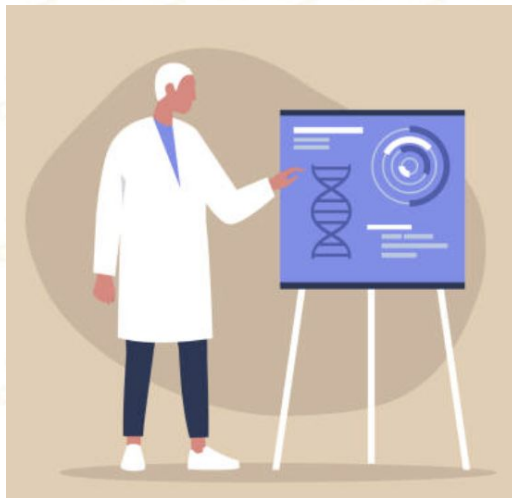
DATA SCIENTISTS - MUST HAVE SKILLS

MATH & STATISTICS

- Machine Learning
- Statistical Modeling
- Exploratory Analysis
- Clustering
- Regression Analysis

DOMAIN KNOWLEDGE & SOFT SKILLS

- Inclination towards business operations
- Keen on working with data
- Problem solver
- Strategic, proactive, and cooperative
- Interested in hacking



PROGRAMMING & DATABASE

- Computer Science Fundamentals
- Database Management System
- Data Visualization
- Python
- Big Data

COMMUNICATION & VISUALIZATION

- Storytelling skills
- Convert data-based insights into decisions
- Collaborative with Sr. Management
- Knowledge of tools like Tableau
- Visual art design



DATA SCIENTIST MAIN TOOLS

PYTHON



SQL



**Data Studio
&
Tableau**



Data Studio





DATA SCIENTIST FRAMEWORKS

DATA RETRIEVAL & DATA ANALYSIS



Google
BigQuery



Jupyter



pandas

MACHINE LEARNING & DEEP LEARNING



TensorFlow



Keras

Simple. Flexible. Powerful.



PyTorch

VISUALIZATION



Data Studio



Tableau



Matplotlib



seaborn



Google Cloud Platform

An orange paperclip is attached to the top right corner of the central yellow box, and an orange tab is attached to the top left corner.

Activities

as Data Scientist



DAY-TO-DAY ACTIVITIES

Internal Meetings

Team Alignments

1-on-1 with Lead

Projects Sprint
Review & Planning

External Courses

DS Transfer Learning

DS Fun Hours

Individual Works

Coding

Data Analysis

Modelling

Productionize ML/DL
Models

Model Performance
Monitoring

Improving
Dataset & Model

Self-Improvement

Growth Mindset

Make It Better

Make It Happen

Leaders Sharing



Data Scientist Products

Data Science Projects



A Promo Optimization System using Machine Learning (POML)



Promotions at Tokopedia

Tokopedia blasts **MILLIONS** of coupons every day.

The banner features a green background with a large green number '2' in the center. A cartoon character wearing a red and white striped hat and a green body is positioned at the bottom left, blowing a stream of gold coins. The text 'tokopedia' is in the top left corner. A white banner in the top right corner reads '15 - 17 AGUSTUS'. The main text reads 'CASHBACK HINGGA 200 RIBU*'. Below this is a red button with the text 'CEK SEKARANG ►'. At the bottom right, a white box contains the text 'Kode Voucher: ULTAH8'. In the bottom left corner, there is a small text '*S&K berlaku'.

tokopedia

15 - 17 AGUSTUS

CASHBACK HINGGA
200 RIBU*

CEK SEKARANG ►

*S&K berlaku

Kode Voucher: **ULTAH8**



BUYER

91% coupon redeemers will revisit retailers that offer coupons

57% shoppers would have abandoned their purchase without a coupon

63% consumers spend **2 hours** each week searching for deals and special offers.

SELLER

→ **Boost** customer happiness and loyalty

→ Support new customer **acquisition**

→ Offload **excess** inventory



Conventional Approach



- Segment-level rather than individual-level decision making
- Handcrafted segmentation, targeting, and personalization rules. Expensive experimentation/optimization!



POML Input and Output





POML Strengths

- **Personalization**: Individual-level decision making
- **Data driven**: Automatic targeting and personalization
- **Flexibility**: Optimize various business goals



Other Use Case in Ecommerce

Download Tokopedia App

tokopedia

Kategori

- Fashion Pria
- Sepatu Pria
- Aksesoris Sepatu Pria
- Lihat Selengkapnya
- Fashion Wanita
- Olahraga
- Pertukangan
- Produk Lainnya
- +10 Kategori Lainnya

Lokasi

- ☐ Jabodetabek
- ☐ DKI Jakarta
- ☐ Kota Bandung
- ☐ Kota Surabaya
- Lihat Selengkapnya

Harga

Rp. Minimum

Rp. Maksimum

Penawaran

- ☐ Diskon
- ☐ Gratis Ongkir
- ☐ Tukar Tambah
- ☐ Cashback
- ☐ Harga Grosir
- ☐ Tokopedia Corner
- ☐ Dilayani Tokopedia

Warna

- ☐ Hitam
- ☐ Coklat
- ☐ Putih
- ☐ Merah

Produk

Katalog

Toko

Profil

Beli Sepatu

Pria

Wanita

Anak Laki-Laki

Anak Perempuan

Lihat Semua >

Menampilkan 3.604.684 produk untuk "sepatu" (1 - 60 dari 3.604.684)

Tanggapi iklan

Sepatu Sneakers hype Nike Air Jordan 1 x off...
Rp 285.000
Kota Bandung
★★★★★ (57)

Sepatu Converse ALL STAR Murah bingitt
Rp 55.000
Kab. Tangerang
★★★★★ (50)

Sepatu Sneakers Pria Navara Powell - Hitam...
Rp 275.000
Kota Serang
Terbaru

SEPATU CONVERSE ALL STAR 70S LOW...
Rp 170.000
Kota Bandung
Terbaru

Sepatu Sneakers Nike Air Jordan AJ 1 Mid SE...
Rp 2.100.000
Kota Bandung
★★★★★ (1)

Leeedoo
Sepatu Sneakers Pria Import...
Rp 109.000
Tangerang

Sepatu wedge formal pantofel tinggi wanita...
Rp 155.000
Bandung
★★★★★ (13)

SEPATU SAFETY SHOES KICKERS...
Rp 180.000
Kab. Bandung
★★★★★ (94)

Techdoo Impor Sepatu Sneakers Ringan Spor...
Rp 129.000
Batam
★★★★★ (40)

Sepatu Futsal Adidas Conquistos II IN Black...
Rp 319.000
Batam

Natural Language Processing Problem

Computer Vision Problem

Price Suggestion

Ranking Problem



Feel free to reach out!



Hendy Fergus



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Thank You

