

DS601 - Foundation of AI Product Development

Dhara Mungra

University of Mannheim; SimPPL

About Me



- ❖ Co-Founder at SimPPL
- ❖ Research Fellow with **CAIDP** and **Global changemaker**.
- ❖ Former Data Scientist III at **Bombora** working on Audience Analytics.
- ❖ ML for Finance and NLP Research.
- ❖ M.S. Data Science at **NYU**.
- ❖ What I care about: shipping products with real users

Let's Meet You!!

1. Your name, your background
2. Any cool project you want to talk about
3. What AI tools you currently use and for what
4. One sentence: what do you hope to get from this class?

1

WHY YOUR AI HABIT MATTER

But before that a quick question

Will AI take your job?

Let's Look at the Data

The Hopeful Side	The Worrying Side
170M new jobs created by 2030 (net +78M)	92M jobs displaced by 2030
85% of employers are prioritizing upskilling	39% of current skills may be outdated by 2030
Only 4.5% of 2025 job losses directly cited AI	23.5% of US companies have already replaced workers with AI
AI/ML specialists, data scientists, cybersecurity — all growing fast	Clerical, admin, data entry — declining fast

From Execution to Judgment: The Real Shift

- ❖ Coding is becoming easier
- ❖ Generating outputs is becoming cheaper
- ❖ Deciding what to build and why is becoming more valuable

2

HUMAN ADVANTAGE IN AI WORLD

What human skill will matter most in an AI-rich world?

What AI struggles with?

- ❖ Context-sensitive judgment
- ❖ Understanding human trust
- ❖ Navigating ambiguity
- ❖ Asking “why” before “how”
- ❖ Translating needs into products

3

NEW INFORMATION ENVIRONMENT

AI Has Changed Information Production

- ❖ Content can be generated at near-zero marginal cost
- ❖ Expertise is no longer required to produce convincing content
- ❖ Production is no longer the bottleneck

402 million terabytes

of data created every single day.

- ❖ 5.66 billion social media users worldwide
- ❖ 15 billion hours spent on social media daily
- ❖ 74% of new webpages contain AI-generated content
- ❖ The global datasphere doubles every 3 years

Sources: Statista 2025, Sprout Social 2026, Ahrefs 2025, Exploding Topics 2025

The enterprise problem is no longer data access.

What they lack is:

- ❖ Knowing what matters
- ❖ Detecting emerging narratives
- ❖ Separating signal from noise
- ❖ Understanding public reaction in real time

Organizations need tools for real-time understanding.

They need to know:

- ❖ What people are saying
- ❖ How narratives spread/shaped
- ❖ Which topics are accelerating
- ❖ Where misinformation emerges

The enterprise problem is no longer data access.

Brand & Revenue	Politics & Information Integrity
<p>Narratives move markets</p> <ul style="list-style-type: none">● Cracker Barrel logo backlash → ~7% stock drop● Bud Light lost ~15% US sales from one partnership controversy <i>No product defect — narrative impact.</i>	<p>Narratives influence democracy</p> <ul style="list-style-type: none">● 2024: AI-generated TikTok videos alleged ballot tampering● State-backed actors used influencers + AI media to spread claims <i>Information environments are now strategic arenas.</i>
Public Health	Financial Markets
<p>Narratives affect life-and-death decisions</p> <ul style="list-style-type: none">● ~319,000 preventable US COVID deaths linked to misinformation UK case: patient refused treatable cancer care due to online influence <i>Beliefs shape medical choices.</i>	<p>Narratives drive investor behavior</p> <ul style="list-style-type: none">● GameStop surged 1,700% on Reddit-driven sentiment● Narrative-driven volatility repeated in 2025 <i>Collective belief can outweigh fundamentals.</i>

Social Listening

Social listening tools are used by brands, governments, civic-society organizations, and newsrooms to understand how information, narratives, and opinions move across the social web.

Why social listening for this course?

1

Real-world demand

\$10.46B market (2025) → \$25.69B by 2032. 13.7% CAGR. Used by governments, NGOs, brands, newsrooms worldwide.

2

Human in the Loop

Requires context, culture, language, intent — not just algorithms. A hashtag means different things in Lagos and London.

3

Experience and Community

Prior experience developing social listening tools and a strong, well-connected community that enables early-stage prototyping and user feedback.

4

Full-stack product skills

NLP, ML, data science AND user research, UI/UX, stakeholder management. Everything we teach.

4

HOW IS THIS COURSE DIFFERENT?


We do not build things because they look cool.

We build things because someone needs them.

- Established partner organizations from past cohorts
- Student teams paired with partners who have real users and real problems
- Your product is not a demo, but a tool someone will use

Parrot

Use graph based signals to identify coordinated networks on large social networks. Used to identify Russian misinformation around the Ukraine war shared on Twitter at scale across 10M+ accounts. **Won an award** from Wikimedia and **grant funds** from the Times and the Sunday Times.

Parrot  Home Dashboard About

Welcome to Parrot!


A tool for identifying potentially manipulated narratives from state-run media

Click on 'Open Report' to calculate an article's **narrative manipulation score**. For more information about how it all works. See our [About page](#)


Start here

Biolabs


This narrative concerns: 'US-Funded Biolabs in Ukraine'



Russia makes new claims on US-financed biolabs in Ukraine...
07 Mar, 2022
[Open report](#)




China urges Pentagon to open up about 'biolabs' in Ukraine...
08 Mar, 2022
[Open report](#)




US-funded labs in Ukraine dealt with bat coronavirus...
10 Mar, 2022
[Open report](#)

Nazi-collaborator Stepan Bandera


'Ukrainian neo-Nazis march to celebrate life of 'Nazi collaborator' Stepan Bandera, a former leader of the Organization of Ukrainian Nationalists'



How Western Press Has Kept Silent For Years on War...
26 Feb, 2022
[Open report](#)




27 million Soviet citizens lost their lives fighting...
08 May, 2021
[Open report](#)




How US state media rebrands Nazi collaborators as fr...
09 Jan, 2022
[Open report](#)

US escalated Ukraine-conflict


'Russia criticises US of escalating tensions by 'incorrectly' claiming Russia is amassing troops at the border of Ukraine and planning an invasion'



Russia says military action in Ukraine highly likely
02 Dec, 2021
[Open report](#)



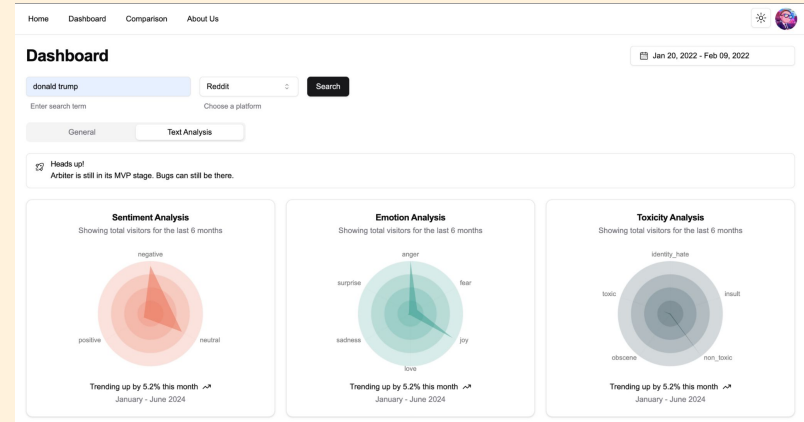
'West has been destroyed without a shot fired' - Russia
15 Feb, 2022
[Open report](#)



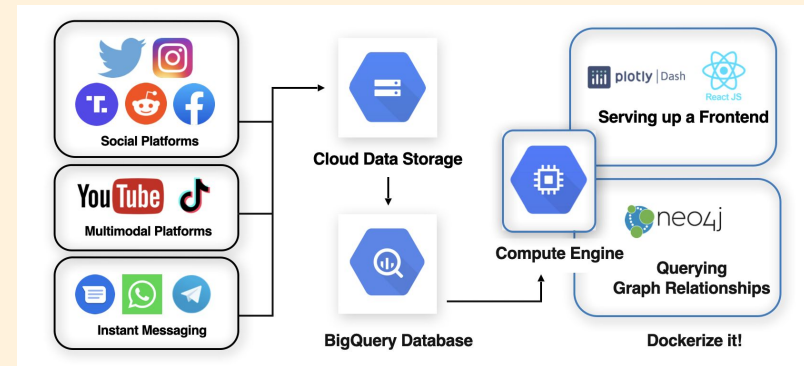
Peace with US only possible after 'new world order'
30 Jan, 2022
[Open report](#)

Arbiter

Platform analyzing over 2M+ posts monthly from multiple social networks to measure the networked spread and influence of key narratives, articles, actors, and popular public figures across the information landscape.



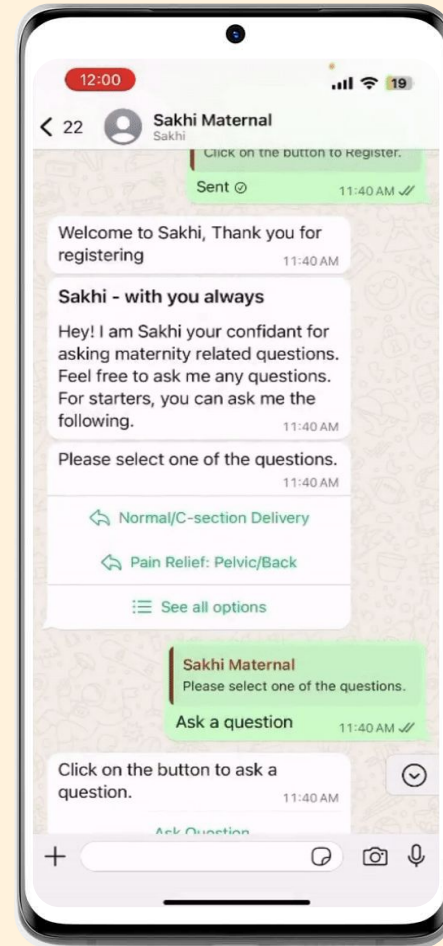
Cross platform Text Search and Analysis



Sakhi

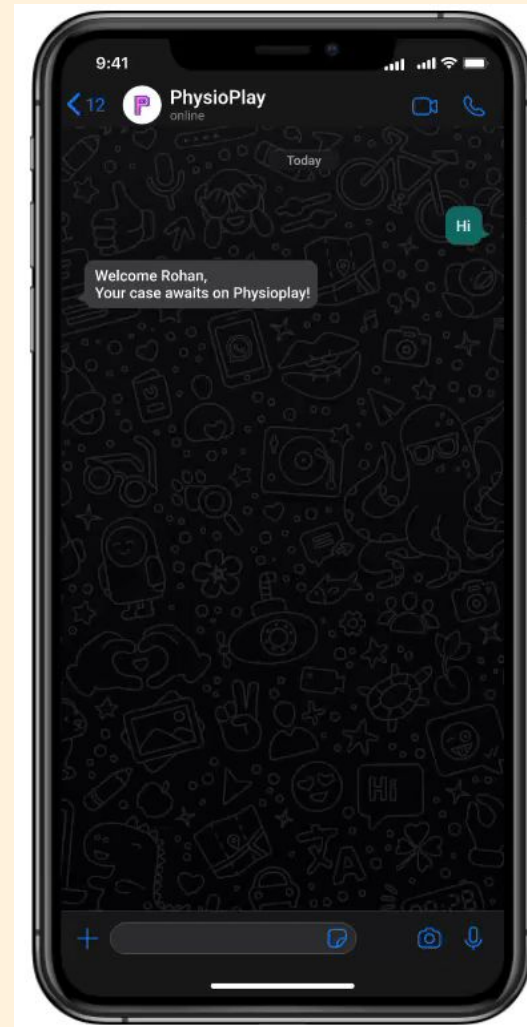
Digital literacy platform designed to deliver accurate and verified **maternal and menstrual** health information to the mobile phones of users, in multiple languages³. **Pilots ongoing with 300 families in Bangladesh and India, featured in Rest of World.**

³Sakhi. For chatbot, scan the QR code and email swapneel@mit.edu to receive a password for access.



PhysioPlay

An AI that helps budding physiotherapists **practice** their **diagnostic instinct & logical reasoning** on different patient personas.
Pilot with a semi-private college in Mumbai.



What we are going to learn in this class?

- ❖ Identify → Who has the problem?
- ❖ Listen → What do they actually need?
- ❖ Specify → Convert needs to requirements
- ❖ Prototype → Build, test, learn, repeat
- ❖ Design → UI/UX tailored to users
- ❖ Sell → Market your product (and yourself)
- ❖ Sustain → Build a revenue model

In This Course

You will:

- ❖ Build AI products for social listening with real partner organizations
- ❖ Learn the full product lifecycle – from user research to revenue models
- ❖ Practice marketing, UI/UX, and pitching
- ❖ Develop skills that transfer to any career path

You will NOT:

- ❖ Build a project that sits on a shelf
- ❖ Work in isolation
- ❖ Be evaluated only on the final deliverable

How This Class Works

- ❖ Format: Hands-on. Learn by doing.
 - Groups of 3–4, partnered with real organizations
 - Workshops, discussions, prototyping sprints
- ❖ Expectations: Show up. Engage. Contribute. Communicate. Be consistent.
- ❖ Evaluation: Participation. Collaboration. Effort. Process matters as much as product.



Feedback!



Ask Me Anything!

Questions?
Please reach out to
dhara.atul.mungra@uni-mannheim.de

Thank you!