

CS 696A Full-Stack Entrepreneurs App Development - Project Ideation

Prof. Arya Boudaie - Fall 2025

Pace University

**OBJECTIVE**

Once you have formed your group of 3-5 students and have settled on a project idea, this project will help your team settle some of the larger questions and come up with ideas for the final submission.

**DUE DATE**

**Tuesday September 23rd at 6:00 PM EST**

**SUBMISSION INSTRUCTIONS**

Create a shared word document with your team members. Keep note of which questions need an answer from every team member, and which ones need a group response. Cite and number any outside references at the bottom of the document and reference these citations inline (just by number).

Feel free to use AI tools to critique ideas, come up with suggestions, etc, but do not uncritically copy anything from an AI tool into this assignment.

### AI Attestation

### We acknowledge using ChatGPT for the following tasks:

* Exploring and refining ideas for the technical stack to be used in the project.
* Summarizing the project requirements and instructions from the assignment brief.
* Expanding and explaining the project concept in more detailed documentation form.
* It helped us organize our ideas clearly and ensured we covered all required points.
* It provided examples of how to phrase technical explanations in a professional way.

**FORM YOUR TEAM**

Once you have finalized a group of 3-5 students, create a team on the Classes page, and have each student enroll in it. This will be the team that you will submit all group assignments with throughout the semester.

**TEAM NAME**

In the shared word document, come up with a name for your team. This could be related to your project or just something fun.

***Team TrueFeed***

**ONE SENTENCE PITCH**

TrueFeed is a next-generation social platform that blends AI fact-checking and predictive insights to create a trustworthy space for authentic conversations.

**MORE DETAILS - TEAM SECTION**

In the next section, give more details about your ideas for the application. Answer at least the following questions (though feel free to add more):

1. In more detail, what is your idea?

Our idea is TrueFeed, a next-generation social media platform inspired by Twitter/X but designed with authenticity and credibility at its core. Users can post short updates, images, or opinions, while interacting with others through likes, comments, and chat. What sets TrueFeed apart is its AI-driven fact-checking system. Every post is analyzed against verified sources before becoming publicly visible. Posts containing false or misleading claims are flagged with a watermark such as “Incorrect Information.” For predictive posts (e.g., “There will be a tsunami tomorrow”), the platform uses data analytics and probability models to provide statistical insights on how likely these claims are to be true. This ensures that TrueFeed is not just a space for connection, but also a platform where credibility comes first.

2. What inspired this idea?

The inspiration came from the ongoing misinformation crisis on existing platforms. Reports show that more than half of U.S. adults consider misinformation on social media to be a major issue. At the same time, younger generations, particularly Gen Z and Millennials, demand more transparency and authenticity online. By combining the familiarity of Twitter’s design with built-in fact-checking and analytics, TrueFeed aims to solve a pressing societal problem.

3. How would this project be useful to others? What gap in the market are you solving?

TrueFeed directly addresses one of the biggest pain points in modern social media: misinformation. While platforms like Twitter/X, Facebook, and TikTok excel at rapid information sharing, they lack effective, built-in verification mechanisms. As a result, false news, rumors, and manipulated narratives spread widely, often faster than corrections.

This project is useful to others because it:

* **Protects users from misinformation:** By watermarking or flagging posts that are false or misleading, TrueFeed helps people make more informed decisions and avoid being misled.
* **Adds credibility to online discussions:** Unlike current platforms where trust is low, users can rely on TrueFeed for verified content. This especially benefits students, researchers, journalists, and professionals who depend on accurate information.
* **Empowers communities with context:** Predictive analytics give users extra insight into speculative posts (e.g., disaster warnings, event predictions) by showing official data and statistical likelihood.
* **Builds trust for advertisers and organizations:** Businesses prefer associating with credible environments. By eliminating misinformation, TrueFeed provides a safer space for partnerships and revenue generation.

The gap in the market TrueFeed solves is trust. Most existing platforms are optimized for engagement and virality, not accuracy. TrueFeed fills this credibility gap while preserving the social engagement features people love (likes, comments, chats).

4. What similar projects exist in the market? What are you planning on doing differently?

Several platforms and initiatives tackle misinformation, but none integrate it into the **core social media experience** the way TrueFeed does:

* **Twitter/X “Community Notes”** → Allows users to fact-check tweets collaboratively.
  + **Gap:** Slow adoption, inconsistent coverage, not visible on all content.
  + **Our difference:** Automated AI-driven real-time checks on every post before it spreads widely.
* **Facebook/Instagram Fact-Checking Labels** → Posts are occasionally tagged with “False Information” by external partners.
  + **Gap:** Labels often appear days later, after misinformation has already gone viral.
  + **Our difference:** **Immediate verification** using AI pipelines that reference trusted sources.
* **Snopes, PolitiFact, FactCheck.org** → Independent fact-checking organizations.
  + **Gap:** Require users to leave the platform to verify claims manually.
  + **Our difference:** Integrated fact-checking within the platform, so users get verified insights without leaving their feed.
* **News aggregators (e.g., Google News)** → Present reliable sources but lack interactive features.
  + **Gap:** Not built for social interaction or peer discussions.
  + **Our difference:** Combines verification + community engagement in one app.

In short: others verify information outside or after the conversation. TrueFeed does it inside the platform and in real time, while also offering predictive analytics for speculative posts — a feature no mainstream competitor provides.

5. Besides the standard stack I will introduce in this class (React, NextJS, Postgresql), is there

any other technology or outside resources that need to be used (python, data science, machine learning, cron jobs, libraries, etc...)?

To deliver the advanced features of TrueFeed, we will extend the standard stack with additional technologies:

#### 🔹 Frontend

* **React + Next.js (class standard):** UI framework for fast rendering.
* **Tailwind CSS:** For responsive, modern design.
* **WebSockets (Socket.IO):** For real-time updates (chat, live feed).

#### 🔹 Backend

* **Node.js + Express/NestJS:** For handling APIs and business logic.
* **Redis:** For caching hot feeds, trending posts, and rate limiting.
* **Message Queues (RabbitMQ):** To manage AI fact-checking jobs asynchronously.

#### 🔹 AI / Machine Learning

* **Vector Database (pgvector / Pinecone / FAISS):** To store embeddings for similarity search when retrieving supporting evidence.

#### 🔹 Data Sources & External APIs

* **Google Fact Check Tools API** → Pulls data from fact-checking organizations.
* **NewsAPI** → Provides access to real-time news from verified outlets.
* **OPEN AI API** → For Fact Checking the Posts.

#### 🔹 Authentication & Security

* **OAuth 2.0 + JWT:** Secure user login and sessions.
* **Helmet + CORS policies:** To prevent XSS and CSRF attacks.

#### 🔹 DevOps & Deployment

* **Vercel:** For frontend hosting.
* **CI/CD with GitHub Actions:** For automated testing and deployments.

6. Do you need any external data? How will you get this data?

Yes, we need external data to verify posting feeds before making them publicly visible. To do this, we will use web scraping, the API, and occasionally archived posts from the official source. All of this will be done by the AI, which will connect to the web to check whether the information in the feed is correct. For example, if someone posts saying “Arya is the owner of Pace University,” our AI will then activate and start verifying this information across the internet, on the official site, and in official posts everywhere. It will then decide whether the information is correct or not, and based on the results, it will mark the post as “Misinformation” or “Accurate Information.”

7. What is the MVP (minimal viable product) for this project? If you don’t know what that means, look it up. Break down the development into at least three phases: •

1: Minimal Viable Product (the most basic version of this application).

For MVP, we need to focus on the core functionality

* 1. User Authentication: Allow users to create accounts, login, and log out.
  2. Feed and Posting: The User can post text. And these texts will be displayed in chronological order.
  3. Real-Time Fact Checking: This part will be the core feature.
  4. Real-Time Updates: Using Web Socket to instantly update the feeds when user is posting it.

2: What features you strive to develop with the rest of your time.

After MVP, we would focus on features that improve accuracy, user engagement, and scalability.

* 1. AI model Refinement to check beyond simple fact-checking to analyzing different types of content (images, videos).
  2. User Generated fact checking will allow users to flag posts they believe are misinformation. This can be used to prioritize AI fact checking tasks.
  3. Source Credibility Scoring, this system could analyse the history of a user’s posts to build a “credibility score”.

3: What the application would look like if you had another year and a team of developers to work on it.

If we had another year and a team of developers, then we will start working and training

our own AI model and making our application more stable using and developing our own

services like APIs, custom subprotocols for websockets and many more.

8. What are some risks you foresee, and how will you mitigate these risks?

Some risks I foresee are incorporating accurate fact checking as without this the platform provides no value as the main selling point is only providing accurate information. We will mitigate these risks by testing the fact checking before we launch the platform.

9. Is there anything you need my help with?

Something we may need your help with is scaling the platform to minimize costs of running it.

You do not need to do a PRFAQ for this assignment, but I suggest you go through this exercise at some point.

**MORE DETAILS - INDIVIDUAL SECTION**

For this section, every team member should write their own response. Answer the following questions:

1. What drove you to join this group and this project?

2. What are you excited about regarding this project?

3. What role do you see yourself playing on this role? What skills do you have that you can bring to the table?

4. What previous projects have you worked on? How are they similar to or different from your new idea?

5. What are your current knowledge gaps? What do you need to learn to complete this project?

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### Deepesh Katudia

1. What drove you to join this group and this project?

I was drawn to this group because I see misinformation as one of the most urgent challenges facing digital platforms today. The idea of building a social media app that doesn’t just connect people but also verifies truth in real time felt both impactful and technically exciting. I also wanted to work on a project where I could apply my interest in AI systems and API integration to solve a real-world problem.

2. What are you excited about regarding this project?

I am most excited about integrating AI-powered fact-checking directly into the social experience. Most platforms treat fact-checking as an afterthought, but with TrueFeed, it will be a core part of the product. I’m also excited about the technical challenge of bringing together different APIs, building reliable pipelines, and ensuring that verification happens seamlessly for users without slowing down the app experience.

3. What role do you see yourself playing on this project? What skills do you have that you can bring to the table?

My main role will be designing and integrating the AI fact-checking pipeline with our backend. This includes working with external fact-check APIs, building endpoints that interact with our ML models, and ensuring smooth data flow between the frontend and backend. I bring skills in JavaScript/React for frontend integration, Node.js for API handling, and Python for AI model interaction, which positions me well to connect the AI logic with the user-facing application.

4. What previous projects have you worked on? How are they similar to or different from your new idea?

Previously, I worked on CODEMENTOR AI, a project designed to help developers learn libraries such as React.js, Angular and many more. The platform had a split-screen design: on the left was a chat interface where users could ask questions, and on the right was a live terminal that generated commands to install and use the requested libraries. This project gave me experience in API integration, real-time command execution, and combining conversational AI with user tools. While it was more focused on developer productivity than social media, it is similar in the sense that it required seamless AI integration into an interactive platform.

5. What are your current knowledge gaps? What do you need to learn to complete this project?

To complete this project successfully, I need to strengthen my knowledge of retrieving and managing external fact-checking data at scale. Specifically, I need to learn how to efficiently query APIs like Google Fact Check Tools API and NewsAPI, filter and rank the retrieved data, and integrate it into a pipeline that works in near real time. Additionally, I want to build more expertise in designing workflows that combine AI predictions with external verification sources to ensure accuracy and reliability.

# Anish Ramagalla

1. What drove you to join this group and project?

I was motivated by the opportunity to tackle misinformation through AI, while also combining my interests in productivity apps like Notion and machine learning.

2. What are you excited about regarding this project?

I am excited about building a platform that people can genuinely trust, and about integrating predictive analytics into everyday conversations.

3. What role do you see yourself playing? What skills do you bring?

I will primarily contribute as a backend, integrating machine learning models for fact-checking and predictive analysis. And work with Python, data pipelines, and model deployment.

4. What previous projects have you worked on?

I worked on the NYC Housing Risk Prediction project, which used machine learning to classify building risk levels. While domain-specific, it sharpened my skills in data preprocessing, feature engineering, and predictive modeling.

5. What are your current knowledge gaps?

I need to improve my expertise in scaling backend infrastructure with NextJS and securely integrating live API data streams.

**Aditya Srivastava**

1. What drove you to join this group and this project?

All five members are enthusiastic, have ideas, and want to create a new normal like Facebook, Apple, ChatGPT, and other innovations.

2. What are you excited about regarding this project?

I am eager to see how this application will transform the world by delivering truthful information, eliminating misinformation and rumors, and presenting only accurate facts.

3. What role do you see yourself playing in this role? What skills do you have that you can bring to the table?

I have previous experience with Node.js, React.js, and Next.js, along with three years of backend development experience. This allows me to bring industry-level expertise to the project.

4. What previous projects have you worked on? How are they similar to or different from your new idea?

Previously, I was engaged in the development of an internal communication and file-sharing system intended to establish a localized communication and file-sharing channel within the DRDO intranet infrastructure. In this system, WebSockets were employed to facilitate real-time communication and file sharing. Therefore, this project is similar to ***“TrueFeed”***.

5. What are your current knowledge gaps? What do you need to learn to complete this project?

This project provides me with the opportunity to gain hands-on experience with AI, starting from the basics. Instead of just reading about how AI works, I'll build and try things myself. This will help me connect abstract ideas to real AI applications.

**Aniruddha Rath**

1. What drove you to join this group and this project?

I was drawn to this group because the idea behind TrueFeed addresses a very real and urgent problem: the spread of misinformation online. I’ve always been interested in projects that combine technology with social impact, and this one stood out as a chance to create something meaningful. I also wanted to work with a team that is motivated and ambitious, and this group seemed like the right fit.

2. What are you excited about regarding this project?

I’m most excited about the opportunity to build a platform that goes beyond typical social media and integrates credibility checks directly into the user experience. The thought of combining AI with transparent fact-checking feels both challenging and innovative. I’m also excited about learning how to balance the technical side of the project with the human-centered aspects, like usability and trust.

3. What role do you see yourself playing on this project? What skills do you have that you can bring to the table?

I see myself contributing on both the technical and organizational side. I bring skills in frontend development (React/Next.js, Tailwind) as well as a good understanding of backend workflows and APIs. I’m comfortable structuring projects, documenting processes, and ensuring that the team is aligned on scope. I also like to problem-solve and break down complex tasks into smaller, achievable steps, which I think will be useful as we design and iterate on the MVP.

4. What previous projects have you worked on? How are they similar to or different from your new idea?

Previously, I’ve worked on smaller web applications and coursework projects that involved building interactive UIs and connecting them to APIs or databases. Those projects were similar in the sense that they required designing clean user flows and managing data, but they were much narrower in scope. TrueFeed is different because it combines several challenging domains—real-time social interaction, AI verification pipelines, and credibility assessment—which makes it far more ambitious than what I’ve done before.

5. What are your current knowledge gaps? What do you need to learn to complete this project?

My main gaps are in scaling asynchronous pipelines (like RabbitMQ and background workers) and AI/ML integration for fact-checking, since most of my prior work has been in frontend and full-stack basics. I also want to strengthen my understanding of security practices (OAuth 2.0, JWT, CSRF protection) to make sure our platform is safe for users. To complete this project successfully, I’ll need to learn how to connect ML services with our backend architecture and gain experience with message queues, vector databases, and retrieval-augmented generation.

**Jeffrey Yu**

1. What drove you to join this group and this project?

I was drawn to this group to create a platform where people don’t have to worry about whether the content they are viewing is real or fake. Fake news makes social media interesting, but for many people social media is how they receive news, so having a mix of real and fake news can confuse people. This platform can reduce this problem by verifying whether or not something is true.

1. What are you excited about regarding this project?

I am excited to create a project that can solve a real world problem, fake news. Other social media platforms like Instagram have fact checking, but only by flagging posts to not be true. It doesn’t elaborate on why it’s fake, it simply says it is misinformation.

1. What role do you see yourself playing on this role? What skills do you have that you can bring to the table?

I see myself playing a role in product management and frontend as I interact with many different social media platforms so I can provide some insight on features that work and don’t work. I can also do frontend as I have created a typescript frontend for a student led startup at NYU.

1. What previous projects have you worked on? How are they similar to or different from your new idea?

Last semester I worked on a plant identification app, which implemented firebase database/auth and required us to use figma to design our frontend before implementing it in react. This project is different as there will be more moving parts, including real time updates and fact checking which is integral to creating a reliable app.

1. What are your current knowledge gaps? What do you need to learn to complete this project?

My current knowledge gaps are in backend development and building a scalable platform. I’ve only done smaller scale projects, so building this will give me a chance to build a platform to handle more users.

**TEAM LOGISTICS**

As a team, answer the following questions:

1. How do you all plan to communicate and coordinate as a team? Pick something that works well for asynchronous and synchronous communication, e.g. Discord, or Slack. I don’t rec- ommend relying only on Email or texts.

We will use Discord for daily communication and Slack for structured task updates

2. What is an hourly weekly synchronous meeting time that works for everyone in the team?

Sundays at 7 PM EST

3. How are you planning to split out development responsibilities? E.g. will one person act as a project manager, will the project be broken into different parts which will be worked on independently, etc...

One member will act as project manager. Frontend will be split among two, backend/database across two others, and AI/ML integration will be led by other.

4. What tool will you use to manage project statuses? E.g. Monday, Notion, Google Doc, etc. Will you use any other tools?

We will use Notion for task management, GitHub for version control, and Google Docs for collaborative write-ups