AUTOMATION AI EMAIL NEGOTION

BY USING N8N TOOL

A Project Report
submitted in partial fulfillment of the
requirements for the award of the degree of

Bachelor of Technology

In

Information Technology

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March, 2025

DECLARATION

We here by declare that, the work contains in this report is original and has been done by us under the guidance of our supervisor(s). The work has not been submitted to any other Institute for obtaining any degree or diploma. We have followed the guidelines provided by the Institute in preparing the report. We have conformed to the norms and guidelines given in the Ethical Code of Conduct of the Institute. Whenever We have used materials (data, theoretical analysis, figures, and text) from other sources, we have given due credit to them by citing in the text of report and giving their details in the references.

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CERTIFICATE

This is to certify that the Project report entitled **AUTOMATION AI EMAIL NEGOTIATION BY USING N8N TOOL** submitted by V. Kavya (22H71A1260), V. Akshaya (22H71A1257), J. Sai (23H75A1205), N. Bhargav Adithya (22H71A1240), G.Praneeth (22H71A1214) to **DVR & Dr. HS MIC COLLEGE OF TECHNOLOGY** in partial fulfillment of the requirements for the award of the degree of Bachelor of Technology in **Information Technology** is a Bonafide record of work. The contents of report, in full or in parts, have not been submitted to any other institute for the award of any degree.

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Automation AI Email Negotiation

ABSTRACT

In the rapidly evolving digital creator economy, influencer marketing has become one of the most effective channels for brands to reach targeted audiences. As a result, YouTube creators and influencers receive frequent collaboration, sponsorship, and partnership emails from brands, agencies, and marketing teams. However, the day-to-day process of reading every incoming message, identifying genuine opportunities, replying professionally, negotiating rates, and maintaining follow-ups is highly repetitive and time consuming. For many creators—especially emerging creators who manage content creation, editing, audience engagement, and business operations alone—manual email handling leads to delayed responses, inconsistent communication, and missed collaboration opportunities.

This project titled **"AI-Powered Influencer Email Negotiation Automation using n8n"** proposes an end-to-end automated system that detects, processes, negotiates, and tracks sponsorship emails using a combination of workflow orchestration and Artificial Intelligence. The system integrates **Gmail** as the email source, **n8n** as the automation engine, a **Flask-based AI microservice** for intelligent email understanding and reply generation, and a **Django backend** for database logging, analytics, and dashboard reporting. Incoming emails are automatically triggered through a Gmail watch node, filtered using rule-based conditions (such as collaboration-related keywords and sender intent), and converted into a structured JSON format for downstream processing.

The AI microservice applies prompt engineering and negotiation logic to generate context-aware and professional drafts. It extracts key entities such as brand name, deliverables, timeline, proposed budget, and negotiation intent. Based on the extracted information, the system can generate multiple types of responses: accepting the proposal, requesting missing details, counter-offering a revised budget, or politely rejecting low-value collaborations. To ensure reliability in real-world use, the solution follows a **draft-first approach** where generated replies are saved as Gmail drafts for human approval before sending. This reduces the risk of incorrect automatic communication while still saving significant time.

Along with automated replies, the solution maintains a structured record of every negotiation. The Django backend stores threads, replies, status updates, and campaign details, enabling creators to track communication history, pending approvals, and collaboration outcomes. A dashboard provides key analytics such as total brand emails received, reply counts, negotiation success rate, monthly collaboration trends, and the proportion of automated versus manual handling. In conclusion, the proposed system demonstrates a scalable and practical application of AI in automation engineering by improving productivity, maintaining professional communication standards, and enabling creators to manage brand collaborations efficiently. The project showcases strong relevance for final-year academic evaluation by combining workflow automation, AI integration, backend system design, and real-world problem solving.

The system is designed to be creator-friendly and configurable. Minimum acceptable budget, preferred collaboration category, and response tone can be stored in the influencer profile and adjusted through the dashboard.

To improve safety, the automation runs in a draft-first mode. This allows a human approval step before any email is sent, reducing the possibility of incorrect or risky communication.

Security best practices are followed by using OAuth for Gmail access, API authentication for internal services, and rate limiting for AI calls to prevent abuse and manage cost.

From an academic perspective, this project demonstrates API integration, workflow automation, microservice communication, database design, and applied NLP within a single real-world system.

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PROBLEM STATEMENT

Influencer marketing workflows are increasingly dependent on email communication. Brands reach out with collaboration proposals, campaign requirements, and pricing discussions primarily through email. While this channel is effective, it introduces operational challenges for creators due to the volume and variability of messages. Many emails contain incomplete information, unclear deliverables, or unrealistic budgets. Some messages are sent by agencies and require follow-ups, negotiation, and repeated clarifications. In such cases, the creator must spend significant time drafting replies and maintaining professional communication consistently.

A typical creator receives a mixture of genuine offers, low-budget promotions, affiliate requests, unpaid product promotions, and spam. Identifying which emails deserve attention requires manual screening. Even when a message is valid, negotiation is not straightforward. Creators must decide pricing based on niche, engagement rate, production effort, and past collaborations. Manual negotiation often lacks consistency because replies may vary depending on mood, time pressure, or lack of structured templates. This inconsistency can harm the creator's professional brand image and reduce conversion rates.

Another critical problem is missed follow-ups. Many brand deals require a timely response, and delays can lead to brands selecting other creators. Creators who manage everything alone may forget to follow up, fail to track the latest status of a conversation, or lose important context across long email threads. Without a centralized tracking system, collaboration management becomes unstructured and error-prone. Additionally, creators do not have visibility into analytics such as how many brand emails arrived per month, the ratio of successful negotiations, or the common reasons for deal rejection.

Therefore, the problem can be defined as the lack of an intelligent automated system that can (1) detect sponsorship emails, (2) understand the negotiation context, (3) generate professional responses, (4) maintain consistent communication, (5) reduce manual time spent on repetitive tasks, and (6) provide tracking and analytics through a dashboard. Addressing this problem not only improves productivity but also supports creators in responding faster, negotiating better, and managing collaboration opportunities systematically.

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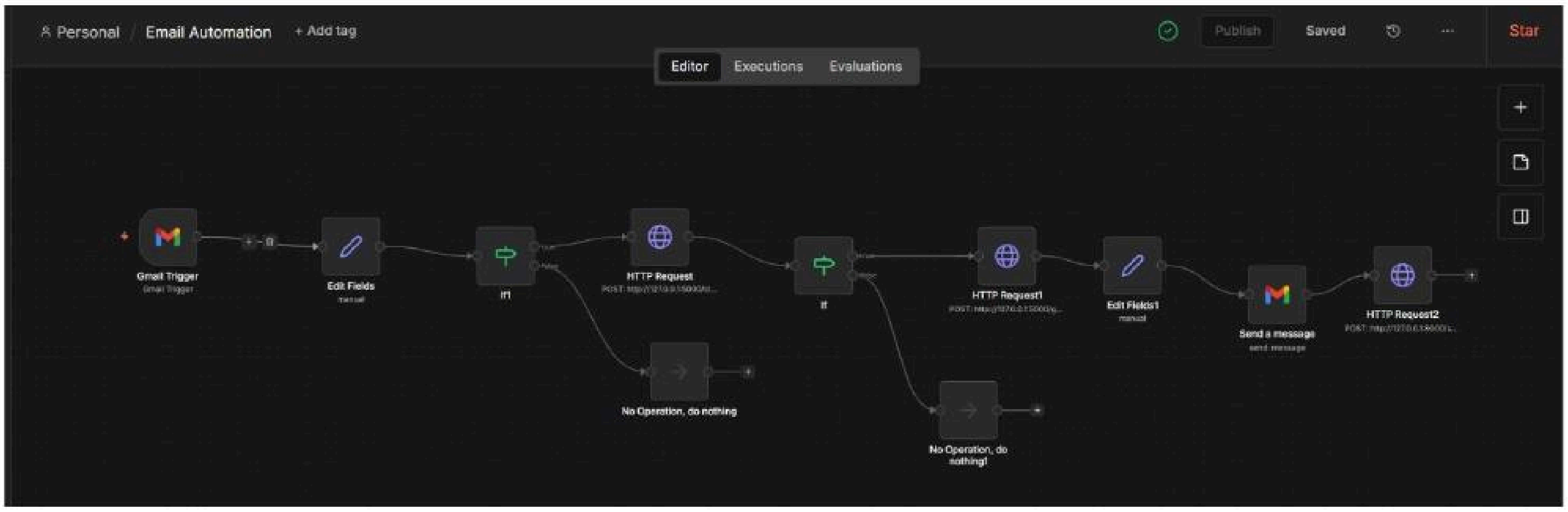
DESIGN & PROTOTYPE



The design and prototype of the proposed solution follow a modular architecture where each module performs a specific responsibility. The core automation pipeline is orchestrated in **n8n**, which acts as the workflow engine. The workflow begins with a Gmail trigger node that detects incoming messages. The trigger captures metadata such as thread ID, sender email, subject line, and email body. These details form the raw input for the system.

After email capture, n8n performs **filtering and classification** using IF conditions and keyword checks. Keywords such as “collaboration”, “brand deal”, “partnership”, and “sponsorship” help determine relevance. For additional safety, sender domain checks and spam-like patterns can be applied. Relevant emails are passed to a formatting node (Set/Function node) which converts raw email text into a structured JSON payload. This structured format improves downstream AI performance and enables consistent logging.

The formatted payload is sent to a **Flask microservice** through an HTTP request node. The microservice exposes an endpoint such as **/generate-reply** and is responsible for prompt engineering, negotiation rules, and reply generation. The prompt enforces a professional tone and applies decision logic: if the budget is missing, the reply requests details; if the budget is below the creator’s minimum rate, the reply politely counter-offers; if the offer is acceptable, the reply confirms interest and requests next steps. The AI output is returned as a reply string in JSON.

Finally, the response is used to create a Gmail draft (recommended for real-world safety) or to send an automated reply. In parallel, the Django backend stores the email thread, extracted fields, and AI-generated reply in database tables such as **EmailThread** and **AIReplyLog**. The dashboard module presents statistics like total brand emails, pending approvals, negotiation success rate, and monthly trend graphs. The prototype demonstrates a complete A□Z pipeline working with test emails, showing how automation and AI integration can function together in a scalable and maintainable system.

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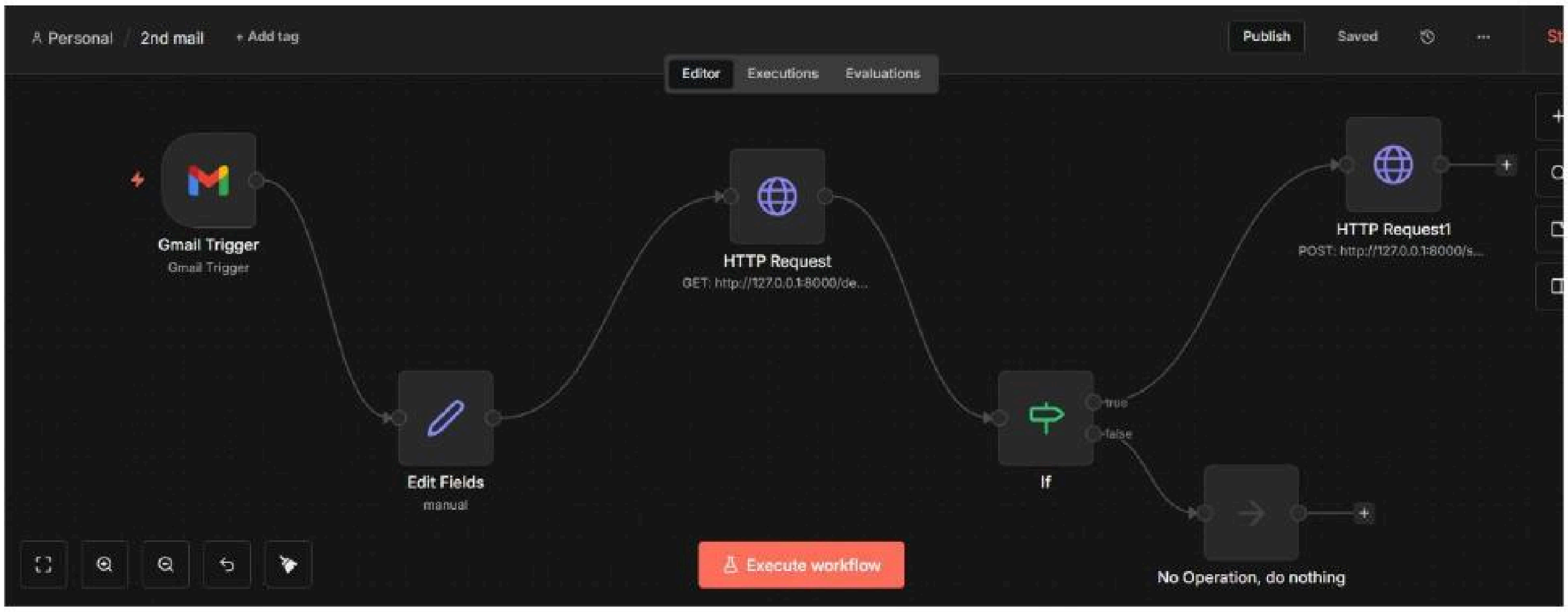

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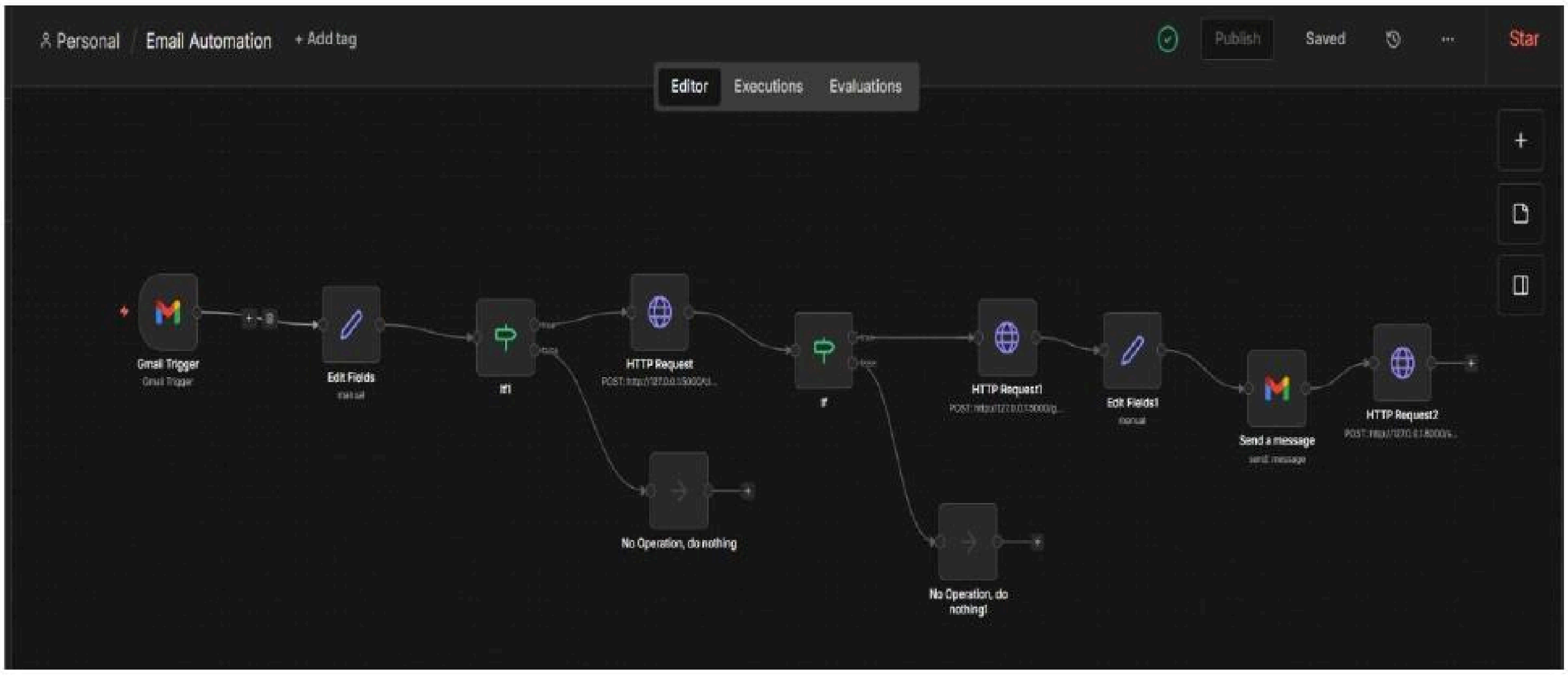

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