



YouTube Description & Title AI Agent

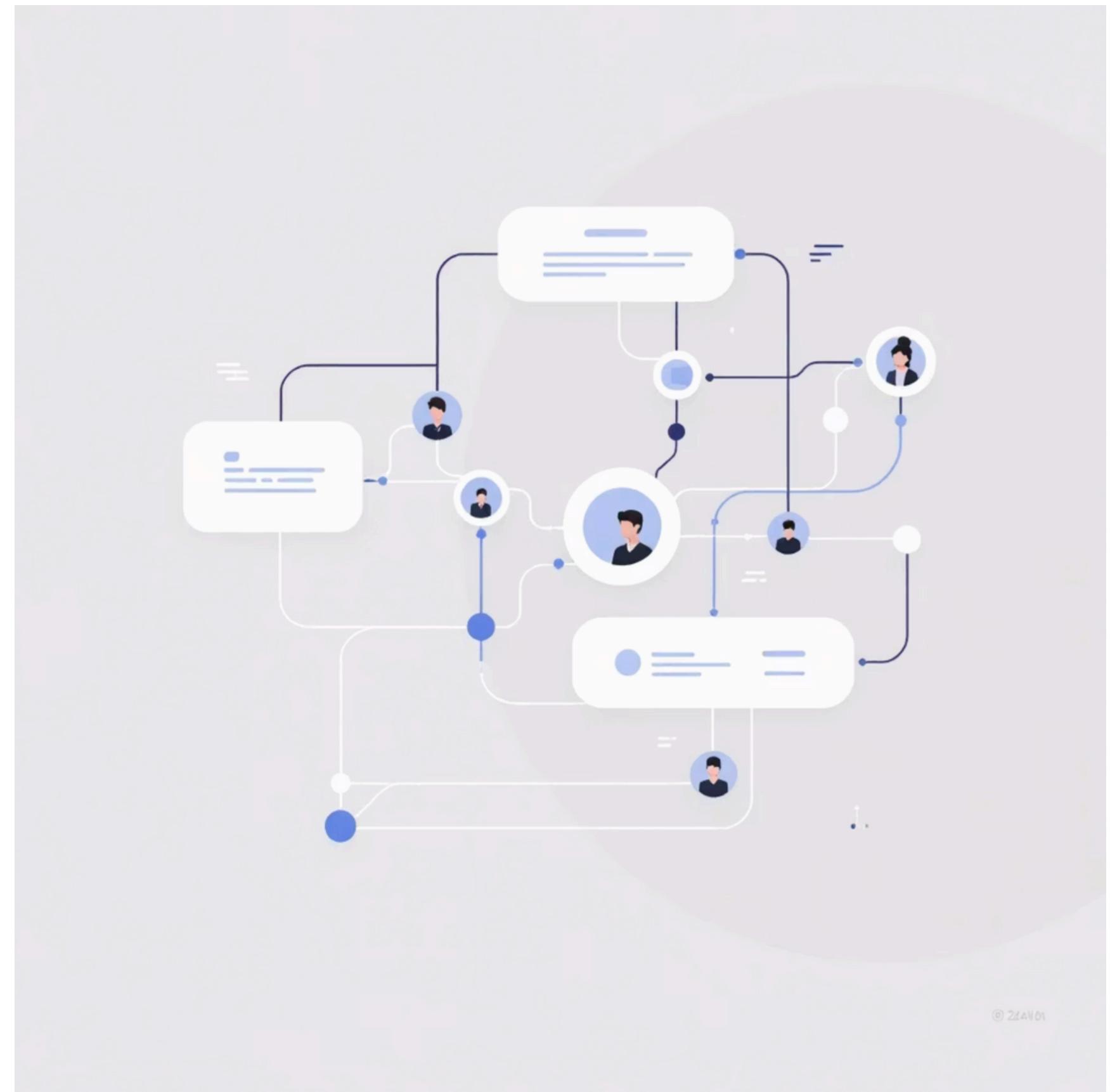
Automate SEO-optimized content generation for your YouTube videos
with intelligent workflow automation

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Overview: Hands-Free Content Creation

This AI-powered workflow revolutionizes how you create YouTube content by automatically generating SEO-optimized descriptions and catchy titles. Built for developers who want to scale their content creation without the manual grind.

The system runs on autopilot, processing video transcripts through advanced AI models to deliver professional-grade descriptions that boost discoverability and engagement.



Key Features at a Glance



Sheet Integration

Reads video links directly from Google Sheets for seamless batch processing



Transcript Fetching

Extracts and merges full video transcripts automatically



AI Optimization

Leverages OpenAI's LLM and Agent architecture for intelligent content generation



Email Delivery

Sends processed results directly to your inbox for review



Auto Updates

Writes results back to Google Sheets with status tracking

Workflow Architecture

01

Schedule Trigger

Runs daily or hourly based on your configuration

02

Data Ingestion

Fetches YouTube video links from Google Sheets

03

Video Processing

Extracts IDs, fetches transcripts, and prepares data

04

AI Generation

Creates optimized descriptions and titles with LLM

05

Distribution

Emails results and updates the source spreadsheet

Data Pipeline: From Links to Transcripts

Video ID Extraction

The code node parses YouTube URLs using regex pattern matching to extract the unique 11-character video identifier. This ID becomes the key for all downstream API calls.

```
return items.map((item) => { const videoLink = item.json["Video Link"]; const match = videoLink.match( /(?:v=|\/)([0-9A-Za-z_-]{11})/ ); const videoId = match ? match[1] : null; return { json: { "Video Link": videoLink, video_id: videoId, }; };});
```

Transcript Retrieval

Using RapidAPI's YouTube Video Summarizer, the system fetches complete video transcripts with timestamp data, supporting multiple languages including auto-generated captions.



Transcript Processing Pipeline



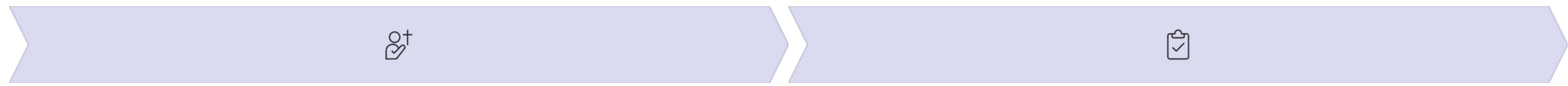
Fetch Raw Data

HTTP request retrieves transcript chunks from RapidAPI endpoint



Parse & Filter

Set node extracts transcript array from nested JSON response



Combine Chunks

Code node iterates through segments, concatenating text with proper spacing



Output Clean Text

Returns single combined transcript ready for AI processing

AI-Powered Content Generation

LLM Chain for Descriptions

The Basic LLM Chain node leverages OpenAI's chat models to transform raw transcripts into compelling YouTube descriptions. The custom prompt ensures every output includes:

- **Hook:** Catchy 1-2 line opener that grabs attention
- **Overview:** 3-6 sentence summary of video content
- **Call to Actions:** Strategic prompts for subscribing, liking, and watching more
- **SEO Elements:** Meta tags and relevant hashtags for discoverability

The prompt explicitly avoids generic phrases like "In this video..." to maintain authenticity and engagement.

AI Agent for Titles

A separate AI Agent focuses solely on crafting click-worthy video titles that balance SEO optimization with human appeal, analyzing transcript context to identify the most compelling angles.





Content Quality Standards

⭐ Engaging Hooks

Every description starts with a compelling hook that immediately communicates value. No boring "In this video" openers allowed.

🔔 Strategic CTAs

Multiple calls-to-action placed throughout: subscribe prompts, like requests, and "watch next" recommendations.

📄 Clear Overviews

3-6 sentences that provide context without spoiling the content. Written for humans, not search engines.

🏷️ SEO Optimization

Dedicated section with meta tags and hashtags for maximum discoverability, without keyword stuffing.

Results & Distribution

Email Notifications

Gmail node sends formatted results directly to your inbox, allowing for quick review before publishing

Sheet Updates

Automatically writes generated descriptions and titles back to Google Sheets with processing status

Performance Tracking

Maintain historical records of all generated content for A/B testing and optimization

Transform Your YouTube Workflow

10x

Faster Creation

Generate descriptions in seconds instead of hours

3x

Higher CTR

AI-optimized titles boost click-through rates

100%

Automation

Fully hands-free with scheduled execution

Ready to Scale?

This workflow eliminates the content creation bottleneck, letting you focus on producing great videos while AI handles the optimization.

Connect with me: Follow my AI learning journey on [Instagram](#), [GitHub](#), [LinkedIn](#), and [X](#)

