



AI Engineer Fresher

AI Email Management Dashboard Documentation

Project Summary:

The AI Email Management Dashboard is a web application designed to help users monitor, categorize, and respond to support emails efficiently. It provides a visual analytics overview of email data, allowing users to quickly identify urgent requests, sentiment trends, and key metrics. The dashboard supports CSV file uploads, dynamic updates, sorting, and filtering to provide a complete analytical view of the email system.

Live Frontend Preview: (<https://preview--email-scribe-dash.lovable.app/>)

Key Features:

1. CSV Upload & Dynamic Dashboard Updates

- Users can upload a CSV file containing email data.
- Before upload, all metrics, charts, and tables display default values (0).
- After upload, the dashboard dynamically updates cards, pie charts, and tables based on the uploaded data.

2. Analytical Overview (Dashboard)

- Displays total emails, pending/resolved emails, sentiment distribution, and priority distribution.
- Metrics are presented as cards/widgets for a clear, at-a-glance view.

3. Filtering & Sorting

- Emails can be filtered by sentiment (Positive, Negative, Neutral) and priority (Urgent, Not Urgent).
- Emails can be sorted by date received, ensuring urgent emails appear first.

4. Color-Coded Visualization

- Sentiment: Positive → Green, Negative → Red, Neutral → Yellow/Grey
- Priority: Urgent → Red/Orange, Not Urgent → Grey
- Pie charts and graphs use distinct, visually appealing colors for clarity.
- Dark mode is supported with improved contrast and readability.

5. Email Details Section

- Displays sender, subject, body, date received, sentiment, priority, and AI draft response.
- Section header updated to: “Extracted Information”

Technical Details:

Frontend:

- Built using React/Next.js and deployed on Lovable.

- Interactive dashboard with cards, charts, and filter/sort functionality.
- CSV upload button placed above the analytics overview.

Backend:

- Built using FastAPI with SQLite database.
- Automatically creates emails.db on first run.
- API Endpoints:

1. /upload-csv → Upload CSV and populate database.
2. /emails → Fetch email list with optional filters and sorting.
3. /analytics → Fetch dashboard metrics for cards and charts.

Database:

- Stores all email metadata including sender, subject, body, date, sentiment, priority, status, AI response.
- Default values ensure dashboard shows zeros before any CSV upload.

How It Works:

1. Initial Load:

- Dashboard shows default metrics (0 values).
- Pie charts and tables are empty.

2. CSV Upload:

- User uploads CSV via the Upload Your File Here button.
- Backend parses the CSV and inserts data into the database.
- Frontend fetches updated data via API calls.

3. Dynamic Updates:

- * Cards, pie charts, and email table update automatically.
- * Filter buttons and sort by date are fully functional.

4. Dark Mode & Color Enhancements:

- * Dashboard supports light/dark themes with improved colors.
- * Tooltips in pie charts are clean and readable.

Setup Instructions:

Backend:

Install Python packages:

pip install fastapi uvicorn python-multipart

Run backend:

uvicorn main\app --reload

Backend runs at: http://127.0.0.1:8000

Frontend:

Update API URLs to point to backend:

```
const EMAILS\_API = "[http://127.0.0.1:8000/emails](http://127.0.0.1:8000/emails)";
```

```
const ANALYTICS\_API =
```

```
"[http://127.0.0.1:8000/analytics](http://127.0.0.1:8000/analytics)";
```

```
const UPLOAD_API = "[http://127.0.0.1:8000/upload-csv](http://127.0.0.1:8000/upload-csv)";
```

Connect frontend API calls to these endpoints for full functionality.

Testing the System:

Load frontend → dashboard shows default zeros.

Upload CSV → metrics and charts update dynamically.

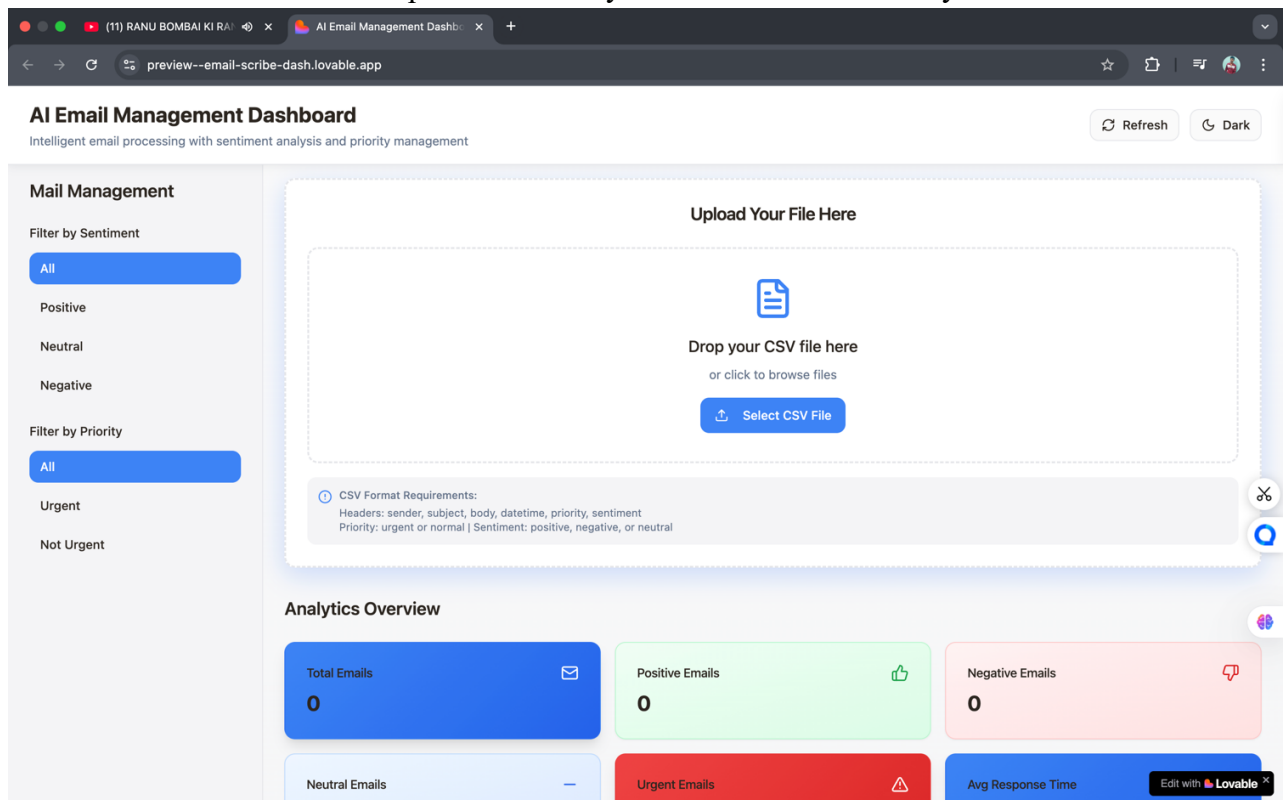
Use filter buttons and sort by date to verify functionality.

Demonstration Video:

A screen recording showcasing:

- Dashboard loading with default values
- CSV upload and dynamic updates
- Sorting and filtering working correctly
- Light/dark mode demonstration

Project Screenshot: Include a screenshot of the dashboard showing cards, charts, and tables after CSV upload to visually demonstrate functionality.



AI Email Management Dashboard

Intelligent email processing with sentiment analysis and auto-reply management

Refresh

Dark

Sort by Date

Filter

Mail Management

Filter by Sentiment

All

Positive

Neutral

Negative

Filter by Priority

All

Urgent

Not Urgent

Email Details

Email Information

Sender

eve@startup.io

Subject

Help required with account verification

Date & Time

05/09/2025, 10:53:51

not urgent

neutral

Body

Do you support integration with third-party APIs? Specifically

AI-Generated Reply

Thank you for your email regarding Help required with account verification. We appreciate your inquiry and will respond within 24 hours.

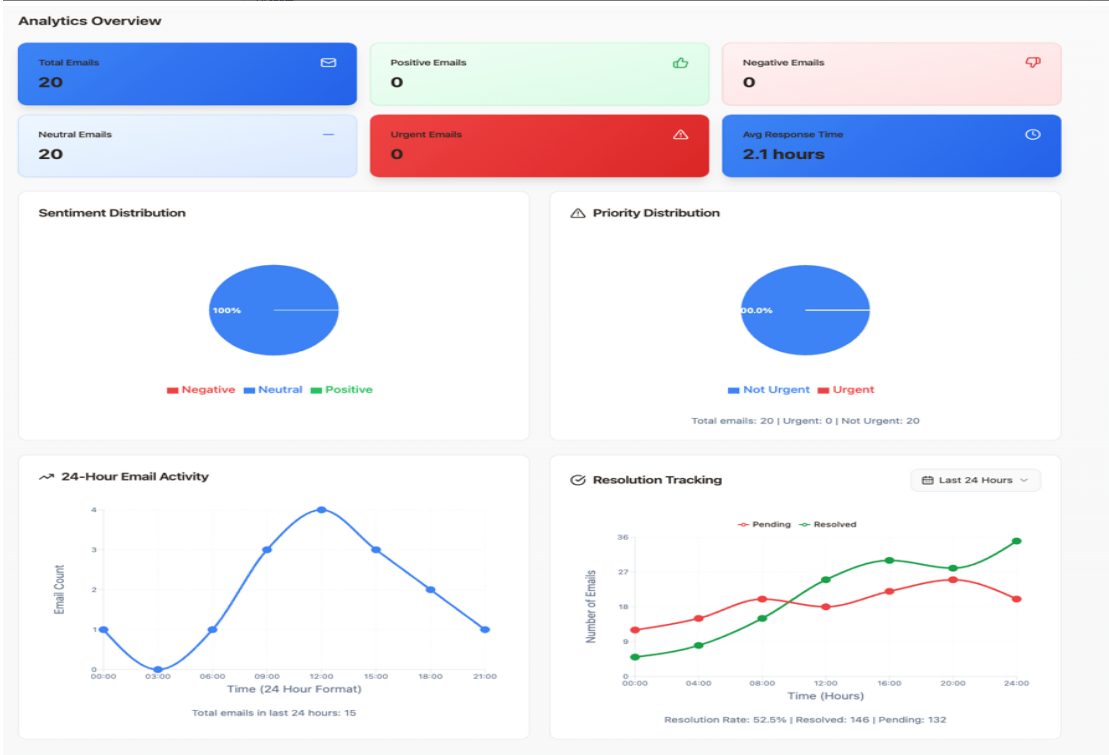
Cancel

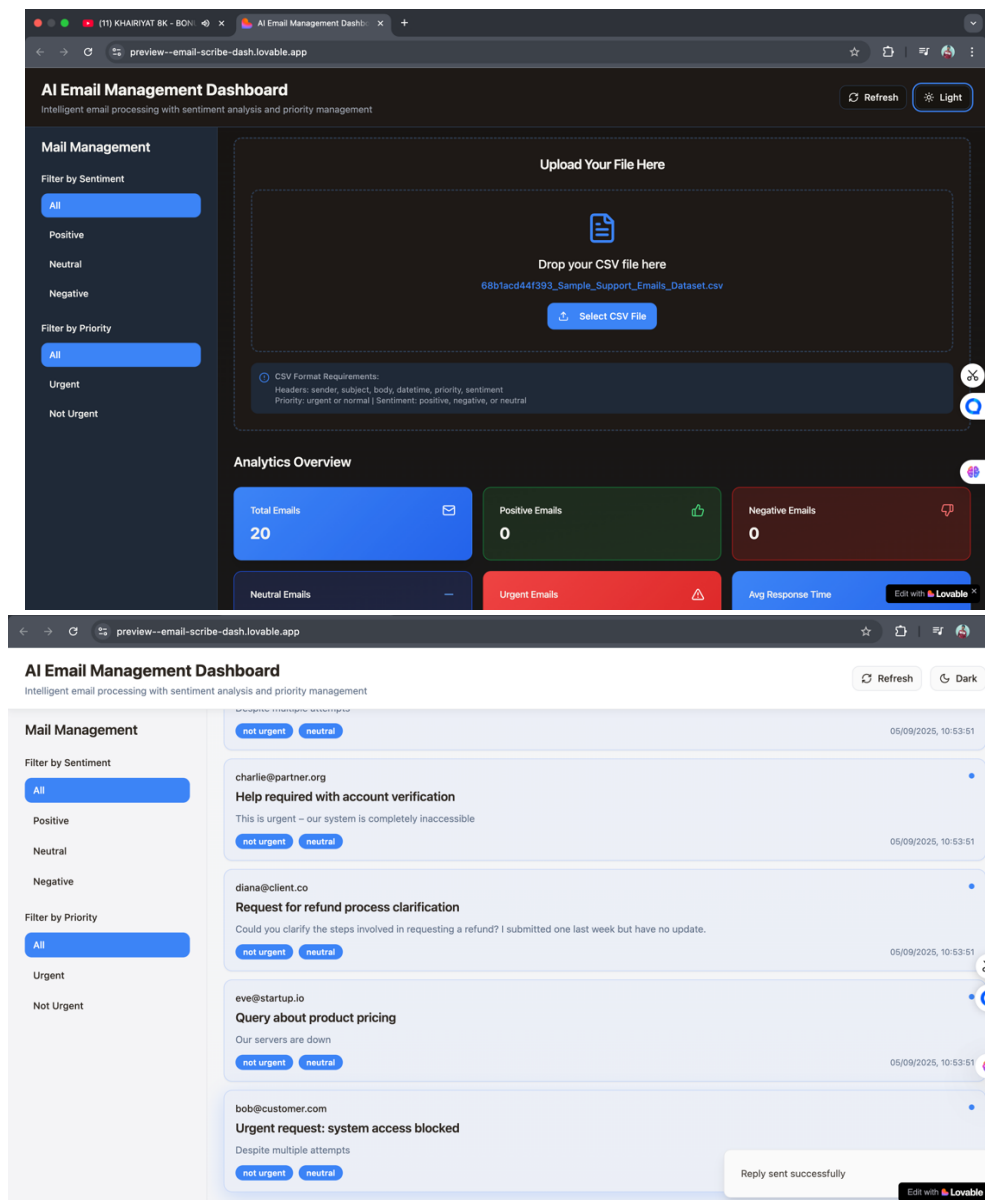
Send Reply

alice@example.com

Urgent request: system access blocked

Edit with Lovable





Conclusion:

The AI Email Management Dashboard provides an intuitive and functional interface to monitor emails, categorize by sentiment and priority, and generate actionable insights. With CSV upload support, dynamic dashboard updates, and clear visualizations, it meets the requirements of efficient email management and analytics.

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