

# Vanguard: AI-Powered Email Security Add-in



# Project Overview

- "Vanguard": Innovative Outlook add-in for enhanced email security
- Fast analysis of emails for potential security threats
- Immediate feedback on message safety
- Designed for data-sensitive enterprises

# Key Features

- Fast email analysis
- Integration with OpenAI-compatible API's (L3 Vanguard 70B)
- Secure interface within Outlook a popular choice with finance
- Dynamic light/dark mode support
- Detailed security assessment explanations

# Technologies Used

- JavaScript (core functionality)
- HTML/CSS (user interface)
- Office.js API (Outlook integration)
- Axios (API calls)
- Webpack (bundling and build processes)
- Node.js (development environment)

# Development Achievements

- Office Add-in development environment setup (100% local API)
- Taskpane interface implementation in Outlook
- AI service integration for complex email analysis
- Responsive UI adapting to Outlook's theme settings
- Error handling and input sanitization
- Production-readyish build process with Webpack

# User Experience

- One-click email analysis
- Clear visual safety status indicators
- Detailed AI-generated security assessments
- Seamless integration with Outlook interface

# Security Considerations

- Secured API communication with proper authentication
- 100% local inference of L3 Vanguard 70B
- Protection of sensitive information (e.g., API keys)
- No data has to leave any encrypted environment for analysis

# Development Process

- Project structure and environment setup
- Core email analysis functionality development
- User interface creation and styling
- AI service integration for threat detection
- Theme switching and responsiveness implementation
- Testing and debugging
- Version control preparation



# Potential Impact

- Enhanced email security for users especially high risk enterprise users
- Accessible tool for identifying phishing/malicious emails
- User education on email security
- Improved security for large enterprises such as banks or hospitals where keeping data secure is paramount.

# Future Possibilities

- AI model refinement for improved threat detection
- Additional features - bulk email analysis, integration with other security tools
- Enterprise-level deployment for enhanced organizational security

# Conclusion

- Practical AI application in everyday productivity tools
- Addresses critical email security needs
- User-friendly interface with advanced AI capabilities
- Innovative solution developed within hackathon constraints
- Demonstrates technical skill and understanding of user needs in digital security