



### "MODERN PROBLEM REQUIRES SECURE SOLUTIONS SOLUTION"

#### INTRODUCTION & PROBLEM STATEMENT

Traditional security testing methods, such as manual code reviews and penetration testing, are often time-consuming and error prone. To address this issue, I propose the development of an AI-powered tool that provides real-time security analysis directly within the developer's IDE. By integrating seamlessly into the development workflow, Cecurity aims to identify and mitigate security vulnerabilities as they are introduced, significantly reducing the risk of security breaches.

#### KEY FEATURES



##### ✓ DUAL ANALYSIS SYSTEM

- Pattern-Based Analysis: Real-time detection of known vulnerabilities.
- AI-Powered Analysis: Context-aware security review & advanced vulnerability detection.

##### ✓ SECURITY SCORING SYSTEM

- Dynamic severity weighting for accurate risk assessment.

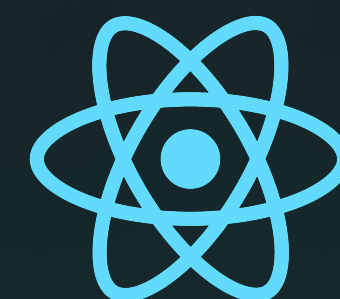
##### ✓ SEAMLESS INTEGRATION

- VSCode Integration: Real-time feedback and issue management directly in your editor.

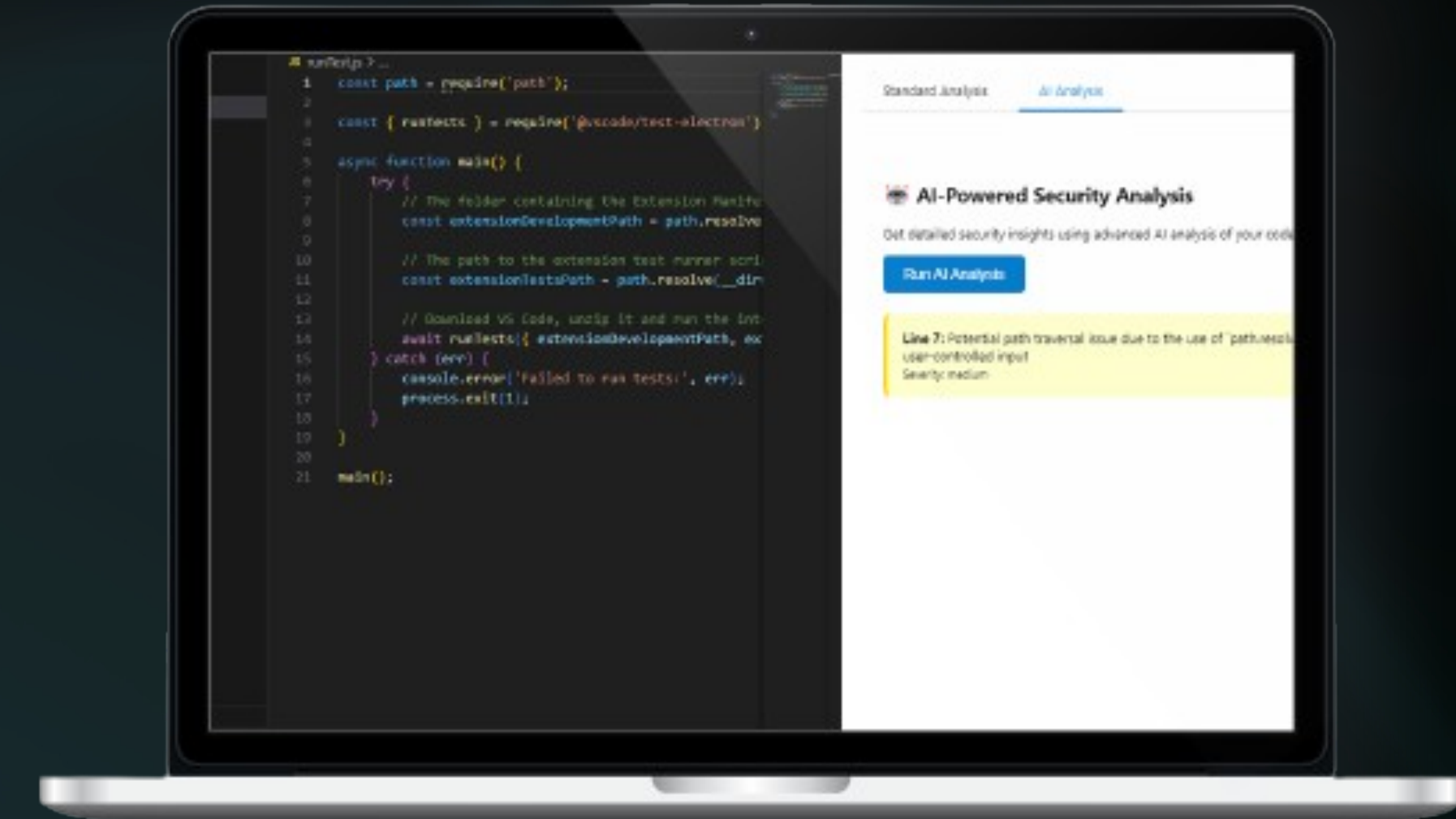
#### TECHNICAL ACHIEVEMENTS

- Seamless integration of pattern-based and AI-driven analysis.
- Smart Analysis Switching for optimal performance and resource use.
- Adaptive tuning for various workloads and codebase sizes.

#### TECH STACK

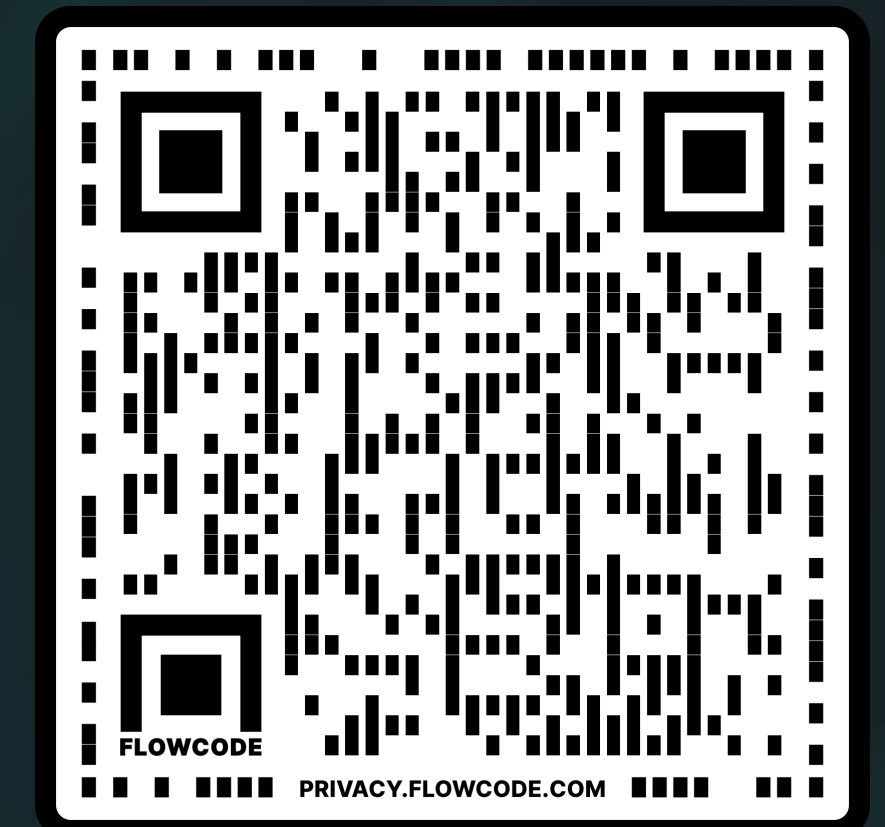


OpenAI



#### Core Functionalities

- Real-time code scanning
- Comprehensive security reporting with issue descriptions
- Detection of 15+ types of security vulnerabilities



#### PERFORMANCE HIGHLIGHTS

- Sub-second pattern analysis (average 0.3s).
- Optimized AI response time (under 2 seconds).
- 65% CPU usage reduction in pattern-based analysis

