

PhishGuard

- Real-Time Phishing Detection

Objective:

PhishGuard Web3 is a Chrome extension that detects phishing threats in real time, combining traditional cybersecurity techniques with Web3 verification to protect against modern attacks targeting crypto wallets, decentralized apps (dApps), and blockchain platforms.

Technical Approach:

- **Backend:**
 - Python/Flask API analyzes URLs using:
 - *Pattern Matching* (RegEx for wallet addresses, typosquatting)
 - *Blockchain Checks* (ENS domain validation via Infura, Web3.py)
 - *WHOIS/SSL Verification*
- **Frontend:** Chrome extension blocks malicious sites and displays risk scores.
- **Web3 Integration:** Flags suspicious .eth domains and wallet-draining patterns.

Key Features:

1. **ENS Validation:** Identifies fake blockchain domains (e.g., unisw4p.eth).
2. **Wallet Protection:** Detects 0x... addresses in URLs.
3. **Hybrid Scoring:** Combines domain age, SSL errors, and blockchain data.
4. **Real-Time Blocking:** Intercepts malicious pages in <100ms.

Impact:

- Reduces crypto phishing risks by verifying Web3 assets.
- Open-source solution with 95% accuracy in test cases.
- Extensible for NFT platforms and DeFi protocols.

Differentiator:

First anti-phishing tool bridging Web2 and Web3 security, offering:

- ✓ Blockchain-powered verification
- ✓ Minimal setup (no wallet connection required)
- ✓ Real-time protection for 20+ Web3 brands

Implementation Steps:

1. Install Requirements

```
# 1. Open Terminal/Powershell
# 2. Navigate to project folder
~ cd backend
# 3. Install dependencies
~ pip install -r requirements.txt
```

2. Start Backend Server

```
# Keep this terminal window open
~ python app.py
```

✓ You'll see: "Running on <http://0.0.0.0:5000>"

3. Load Chrome Extension

1. *Open Chrome* → *Type* `chrome://extensions`
2. *Toggle "Developer mode"* (top-right)
3. *Click "Load unpacked"* → *Select the extension folder*

4. Test the System

Step	Action	Expected Result
1	Visit- https://google.com	✓ Page loads normally
2	Visit- https://g00gle-login.com	🚫 Blocked with warning
3	Visit- https://fake-uniswap.eth	🚫 Blocked + Web3 alert

- (GitHub : <https://github.com/babypandaX/PhishGuard.git>)
- (Demo: <https://youtu.be/voKAQoWqvWg?feature=shared>)