Maxim Bortnikov

maxim.bortnikov_fvrr@outlook.com

Telegram: @maxim_brt

instructables.com/member/Northstrix | medium.com/@Northstrix | github.com/Northstrix

Skills

- C++ | Embedded C | C# | .NET | Java | Python | Next.js | React | Angular | Vue | TypeScript | HTML/CSS | AES-256 | Serpent | Blowfish
- JavaScript | Whirlpool | Swift | Vapor | HMAC-SHA3-512 | ML-KEM-1024 | Docker | ChaCha20 | npm | hash-wasm | mipher | Argon 2
- Google Firebase | HMAC-SHA256 | ECDSA | Digital Signatures | Cryptography | Virtual Machines | SQLite | Linux | Microcontrollers
- Embedded Systems | ESP32 | Teensy 4.1 | STM32 | Backend | Frontend | Cryptography | Block Ciphers | Data Security | Data Integrity
- Languages: Fluent: English, Russian | Conversational: Hebrew, German | Beginner: Spanish

Projects

- **Plum Cave:** Built a cloud backup solution that employs the "ChaCha20 + Serpent-256 CBC + HMAC-SHA3-512" authenticated encryption scheme for data encryption and ML-KEM-1024 for quantum-resistant key exchange :: Next.js | End-to-end encryption | Firebase
  Link: https://plum-cave.netlify.app/

- **Namer UI:** Assembled a collection of modern, visually appealing, reusable Typescript components.
  Next.js Version: https://namer-ui.netlify.app/ Vue Version: https://namer-ui-for-vue.netlify.app/

- **In-Browser File Encrypter:** Made a file encrypter that enables the user to encrypt their files locally in the browser :: HTML | CSS JavaScript | AES-256 CBC | HMAC-SHA512 | PBKDF2 (SHA-512) | crypto-js
  Link: https://northstrix.github.io/In-Browser-File-Encrypter/V1.0/web-app.html

- **Midbar:** Created a fully-functional open-source data vault from scratch :: Embedded C | AES-256 | ESP32 | Blowfish | RFID | STM32F407 Serpent | HMAC-SHA256 | ESP8266 | Google Firebase | Teensy 4.1 | Raspberry Pi Pico | ILI9341 | ST7789 | RTL8720DN
  WebFlash: https://northstrix.github.io/Midbar-ESP32-CYD-Firebase-Edition/flash
  Wokwi Simulation: https://wokwi.com/projects/374498956604379137

- **Lantern:** Made a functional wireless controller for the addressable RGB LED strip :: Embedded C | SPIFFS | ESP32 | ESP8266 | Serpent ESP NOW | Nintendo Wii Nunchuk | TFT_eSPI | Sprite animation | Brightness Control

Work Experience

- **Unpaid Intern @ Bazium:** **1/2025 – 3/2025**
  Learned to make websites using Bazium website builder; Got familiar with YAMM (Yet Another Mail Merge);
  Learned the cold outreach technique; Developed localization tool compatible with Bazium-built websites (on my own initiative).

Experience

Maker **Instructables** **1/2021 – 7/2024**

- Produced more than 70 tutorials involving various microcontrollers, from ESP32 to Teensy 4.1.

Independent Developer **GitHub** **3/2019 - Current**

- Created more than 80 repositories with open-source code written in several programming languages.

Education

Secondary Education **Rubtsovsk Agrarian-Industrial College** *Rubtsovsk, Altai* **9/2016 - 7/2020**

- Computer Systems and Clusters

Bachelor of Computer Science **Altai State Technical University** *Barnaul, Altai* **9/2020 - 7/2024**

- Major in Informatics and Computational Devices

Certifications

- **Cryptography I by Stanford University offered via Coursera** (2/2020)
- **Information Security: Context and Introduction by University of London offered via Coursera** (3/2020)
- **Industrial IoT on Google Cloud by Google Cloud offered via Coursera** (5/2020)
- **Astronomy: Exploring Time and Space by University of Arizona offered via Coursera** (6/2020)
- **Develop and Deploy Windows Applications on Google Cloud by Google Cloud offered via Coursera** (4/2021)