

Nathaniel W. Brooks

Software Engineer

Education

- ❖ **TOWSON UNIVERSITY**
COMPUTER SCIENCE - 3.82 GPA
AUG 2022 - MAY 2026

RELEVANT COURSEWORK:

- DATA STRUCTURES/ALGORITHM ANALYSIS
- SOFTWARE ENGINEERING
- DATA COMMUNICATIONS & NETWORKING
- OBJECT-ORIENTED DESIGN & PROGRAMMING
- OPERATING SYSTEMS
- DATABASE MANAGEMENT SYSTEMS
- COMPUTER GRAPHICS
- ARTIFICIAL INTELLIGENCE
- MOBILE APPLICATION DEVELOPMENT
- WEB-BASED PROGRAMMING
- PROGRAMMING LANGUAGES DESIGN & IMPLEMENTATION

- ❖ **CARROLL COUNTY CAREER AND TECHNOLOGY CENTER**
CISCO CYBER OPERATIONS - 4.0 GPA
SEP 2021 - MAY 2022

Formalized introduction to the characteristics of cyber-crime, security principles, technologies, and procedures to defend networks. Learned how to use Python to create programs that would interact with the CISCO architecture.

Work Experience

- ❖ **GOPANDA - FULL STACK ENGINEER (CONTRACT)**
NOV 2025 - PRESENT

- Recruited by my Web Programming professor to support production contract development within a small engineering team
- Design and implement full-stack web applications using React, RESTful backend APIs, and relational databases
- Contribute to feature development, API integration, and deployment workflows
- Deliver maintainable, production-ready systems through structured internal collaboration

- ❖ **FORTINET FEDERAL - PRODUCT MANAGEMENT & CLOUD INTERN**
JUN 2025 - AUG 2025

- Architected and developed a policy-compliant full-stack automation platform for FortiGate configuration and isolated network provisioning
- Implemented infrastructure-as-code workflows using Terraform with backend services in FastAPI and a Svelte frontend
- Led system design and UI/UX implementation across the platform
- Self-learned and applied Terraform, Svelte, vSphere, Fortinet technologies, and federal compliance frameworks including FedRAMP, ZTNA, SASE, CMMC, and NIST

- ❖ **KITE TECHNOLOGY GROUP - SECURITY & OPERATIONS INTERN**
MAY 2024 - MAY 2025

- Managed NOC operations by monitoring and responding to cybersecurity events
- Supported security and compliance audits through training campaign deployment and documentation
- Administered Microsoft 365 environments using Azure, Intune, and Entra
- Coordinated with clients on endpoint and device management initiatives

Projects

- ❖ **SPARK DATING APP**
FALL 2025

Architected and implemented a real-time synchronous matchmaking platform with live user queues, session orchestration, and WebSocket-driven communication. Built a custom backend using FastAPI, PostgreSQL, and socket-based messaging with a React frontend.

❖ **GRUBGUESSER**

FALL 2025

Developed a SwiftUI-based iOS game that challenges users to compare and guess nutritional values between foods. Designed the full application architecture, game logic, and state management using SwiftUI and MVVM principles. Built a FastAPI backend to serve food and nutrition data sourced from the USDA FoodData Central dataset, with custom endpoints for randomized comparisons and scoring.

❖ **LINGANORE UNITED METHODIST CHURCH WEBSITE**

SPRING 2025

Solo developer for a full-stack church website with a custom admin panel and end-to-end control over the technology stack. Opted against third-party CMS and authentication services in favor of building bespoke systems tailored to exact needs. Built with Vite+React, ExpressJS, and MySQL, utilizing RESTful APIs.

❖ **JOUST - GAME**

SPRING 2025

JOUST was developed for my Computer Graphics course as a physics-based, pixel-stylized 3D jousting game using Three.js, as my first formal introduction to GLSL shaders and WebGL. The game features dynamic camera transitions, a points-based scoring system, and real-time collision mechanics with stylized knight animations.

❖ **CAPTION CREATORS - WEB APPLICATION/GAME**

SPRING 2024

Semester long project in my Software Engineering course. An online round-based multiplayer game using AI to generate prompts and interact with YouTube API to propagate videos for players to caption, with gameplay similar to that of Quplash from Jackbox Games. Built with NextJS and MySQL.

Certifications

❖ **JAVA SE 8 ORACLE CERTIFIED ASSOCIATE**

2023 - 1Z0-808

Gained proficiency in Java by building real-world applications, including object-oriented designs, algorithms, and data structures. This certification demonstrates a deep understanding of Java fundamentals, including exception handling, multithreading, and working with APIs

Coding Languages and Tools

❖ **JAVA**

I fell in love with object-oriented programming during my computer science classes, where Java became my strongest skill due to its consistent focus in the curriculum. This led me to create several applications. My passion for OOP also pushed me to earn an Oracle Certified Associate Java Programmer certification, to further solidify my expertise.

❖ **PYTHON**

I first learned Python at a Career and Technology Center, where I built tools and small applications that established a strong foundation in the language. I have continued using Python over several years, and it is now my primary choice for backend API development.

❖ **FIGMA**

I love UI/UX design and often start by sketching and wireframing interfaces before building the actual product. Bringing ideas to life through thoughtful design is one of my favorite parts of the process.

❖ **REACT | SVELTE | HTML/CSS | JAVASCRIPT / TYPESCRIPT**

Build modular, reusable UI components for highly interactive frontends, including real-time web applications. Redesign and optimize interfaces to improve responsiveness, performance, and accessibility, with attention to efficient rendering, SEO, and cross-device consistency.

❖ **TERRAFORM**

Picked up Terraform on the fly and built a dynamic frontend-driven system that generates live Terraform JSON configurations enabling automated infrastructure updates, resource provisioning, and integration with an infrastructure-as-code workflow.