

# Nicholas Carnevale

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## EDUCATION

**Lehigh University**, Honors College, Bethlehem PA

September 2021-May 2025

*Bachelor of Science in Computer Science and Business*

GPA 3.84

Dean's Scholar Recipient; Achieved Dean's List every semester; Disability notetaker; Student mentor

**Relevant Coursework:** Data Structures & Algorithms, Systems Software, Software Engineering, Databases, Blockchain Applications, Advanced Algorithms, OS, Computer Architecture, Discrete Math, Linear Algebra, Finance

## PROFESSIONAL EXPERIENCE

### Artificial Intelligence Developer

January 2024-Present

*MacguyverTech: Blockchain & AI For Cybersecurity*

Bethlehem, PA

- Enhanced the security of smart contracts by developing a scanning module for MTech's cybersecurity app, PVA.
- Designed and integrated a python module into their FastAPI backend that identifies various levels of security vulnerabilities, significantly improving the application's ability to detect risks in deployed solidity code.
- Leveraged Llama-index AI libraries and fine-tuned Llama-3 LLM to analyze and detect errors in smart contracts
- Utilized the Etherscan API to automate vulnerability identification, generating detailed reports for targeted users.
- Led the team as Scrum Leader, ensuring weekly delivery of project milestones through Agile proj. management.
- Ultimately delivered a robust security module that contributed to the enhancement of PVA's security features, directly supporting the company's goal of providing comprehensive cybersecurity solutions for blockchain apps.

### Blockchain Researcher

May 2024-Present

*Lehigh University & University of Singapore : Blockchain Benchmark Standardized Framework*

Bethlehem, PA

- Extended a framework to standardize benchmarking blockchain performance from Layer-1 (L1) to Layer-2 (L2)
- Simulated multi-node networks using Docker and deployed to AWS to generate reliable, reproducible metrics.
- Finished benchmarking L1 technologies including Etheruem, Quorum, Sui and Aptos, soon to publish results
- Conducted in-depth research on L2 technologies, identified bottlenecks and proposed benchmark methodologies.
- Collaborated on a scholarly paper detailing the challenges and strategies for L2 benchmarking, contributing to the practical understanding of blockchain scalability and highlighted an overview of the current state of L2s
- Strived towards the ultimate goal of providing transparent, comparable performance metrics for blockchains.

### Software Engineer Intern

May 2023-August 2023

*Devola Technologies*

Remote/ Bethlehem, PA

- Launched a functional automated emailing service module to streamline engagement for small business owners
- Collaborated with a Ukrainian team to build a Node.js backend; focusing on user authentication, Stripe payments
- Designed RESTful APIs for core functionalities, rigorously testing them with Postman to ensure reliability.

## PERSONAL PROJECTS & SKILLS

+ more available on github

### Congressional Trade Tracking

- Automated data pipeline that parses, filters, and validates congressional financial disclosures from XML and PDF formats, ensuring accurate tracking and updates to large datasets. Future work: AI trading bot from data

### BUZZ Social Media Application

- Full stack app built for Lehigh students, similar to reddit; mobile, web, CLI interfaces, worked with team of 4

**SKILLS:** Python, Java, C/C++, Rust, SQL, Javascript, Golang, Solidity, Git, Linux, AWS, React, Angular, Apache Maven, Spring Boot, Express.js, MongoDB, Oracle DB, PostgreSQL, Heroku, Docker, Wordpress, Tableau

**INVOLVEMENT:** Lehigh Club Soccer, Lehigh CSB Assn., Lehigh Blockchain, ATO Fraternity