

# Nathan Cheng

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## EDUCATION

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### University of South Florida

Tampa, FL

Bachelor of Science in Computer Science | Expected Graduation December 2025

Aug 2021 – Dec 2025

- Relevant Coursework: Data Structures & Algorithms, Analysis of Algorithms, Computer Architecture, Software Engineering, Operating Systems, Probability & Statistics, Compilers, Automata Theory, Augmented Reality

## EXPERIENCE

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### Microsoft

May 2025 – Aug 2025

Upcoming Software Engineer Intern

Redmond, WA

### Apple

May 2024 – Aug 2024

Software Engineer Intern

Sunnyvale, CA

- Developed new AR/VR video playback experiences in VisionOS for the Apple Vision Pro.
- Reduced loading time by 35% for new video playback feature through pre-buffering techniques.
- Navigated large code base and collaborated for feedback from human interfaces / other engineering teams to refine feature design and ensure seamless UI integration to the VisionOS platform, including RealityKit.
- Deployed to production on the AVKit framework for new feature with documentation to be iterated on.

### MIT Lincoln Laboratory

Jan 2024 – Apr 2024

Spring Research Intern

Lexington, MA

- Prototyped an internal program that uses computer vision to reduce system engineer modeling time by 20%.
- Utilized OpenCV written for python executable to perform concepts such as edge detection, Hough transform, and contour detection.
- Implemented CNNs for local image classification in TensorFlow with an 89% accuracy for specific image recognition.
- Devised program architecture to generate digital CAD file designs of satellite photo diode chips for fabrication.

### Northrop Grumman

May 2023 – July 2023

Software Engineer Intern

Lexington, MA

- Performed unit testing on an enterprise code base, automating Jira and Confluence service tickets with 96% accuracy.
- Automated user percentage capacity reporting within company. Sent periodically by creating a Jenkins CI/CD pipeline.

## PROJECTS

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### Ducky Beat Maker | Swift, SwiftUI

Feb 2024

- Developed fun creative music game for children with animated ducks that play instruments given by player.
- Utilized Swift synchronous libraries/frameworks to improve response time for the game for real-time interactions.

### DisasterMapAI | JSON, Google Maps API, ChatGPT API

Oct 2023

- Collaborated with a team to create React web application for disaster response powered by AI.
- Parsed JSON data from disaster alerts such from FEMA and NASA and plotted data onto a map utilizing the Google Maps API.
- Aggregated and inputted news data into the GPT API to generate disaster-specific summaries, outputting the most relevant data about the disaster written by the LLM.

### BullyBlock | Regex, JavaScript, HTML, CSS

Oct 2022

- Developed a chrome extension to block hateful phrases and words on the web, including messaging apps.
- Utilized Javascript to parse through web pages replacing harmful phrases and words with asterisks in real time.
- Awarded 2nd place at SASEHacks 2022, competing against 22 teams.

## TECHNICAL SKILLS

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**Languages:** Python, Java, Go, Swift, SwiftUI, C/C++, HTML/CSS

**Skills:** AR/VR/XR Development, iOS Development, OpenCV, React, TensorFlow

**Tools:** Git, Linux, Firebase, Docker, SQL, NoSQL, Excel, PyTorch, REST API, Pandas

**Concepts:** Frontend/Backend, Fullstack, Machine Learning, Agile, Virtual Reality, Augmented Reality, Mixed Reality