

# Abel Lu

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## EDUCATION

**North Carolina State University**  
*Bachelor of Science in Computer Science*

Current GPA: 4.000  
Aug 2022 - May 2027

### Relevant Coursework

Software Development Fundamentals in Java  
Introduction to Data Science (Python / R)  
Discrete Mathematics for Computer Science  
C / Software Tools

Spring 2023  
Spring 2023  
Fall 2024  
Fall 2024

## EXPERIENCE

**NC State Department of Computer Science**  
*CSC 111 Teaching Assistant*

Raleigh, North Carolina  
Aug 2023 - Dec 2023

- Instruct lab sessions for an introductory Python programming course
- Support professor and students by demonstrating sample solutions, holding office hours, and grading student projects and exams
- Analyze source code, style, and documentation to provide constructive criticism

**Lowe's Companies, Inc.**  
*Software Engineer Intern*

Charlotte, North Carolina  
May 2023 - Aug 2023

- Develop IT management tools currently deployed in over 2000 Lowe's stores across North America, reducing time needed for hardware updates by over 2 hours
- Integrate support for over 70000 legacy and modern POS units into a single optimal UI
- Utilize Prometheus and Grafana to track and visualize use patterns and identify areas for improvement and optimization between iterations

**Robotics For All**  
*Teacher Coordinator, Lead Instructor*

Remote Position  
Nov 2020 - Nov 2021

- Oversaw the performance of a total of 8 lead instructors and 6 teaching assistants
- Instructed classes of up to 20 students in Python programming with a 96% pass rate
- Mentored Teaching Assistants: 5 out of my 6 TAs went on to become lead instructors

**Cisco Systems, Inc.**  
*Engineering Extern*

Raleigh, North Carolina  
Jun 2021 - Jul 2021

- Designed a mobile app solution to improve medication delivery in retirement homes
- Collaborated in a team of 12 members to develop a notification system for caregivers
- Won 1st place out of 8 teams in a capstone competition judged by Cisco employees

## ACTIVITIES

**North Carolina State University Drumline**  
*Snare Line Member*

Raleigh, North Carolina  
Aug 2022 - Present

- Placed on snare line as the result of a successful audition
- Rehearse 5+ hours weekly to prepare ensemble music
- Perform at various events attracting crowds upwards of 50,000 audience members

## SKILLS & INTERESTS

**Languages:** C, C#, HTML/CSS, Java, JavaScript, Python, R, SQL

**Libraries:** AsyncIO, AIOHTTP, Discord.py, JUnit, Material UI, Matplotlib, NumPy, React, Redux,

**Collaboration:** Agile, Waterfall, Jira, Scrum, Kanban, Continuous Integration / Continuous Delivery

## PROJECTS

### **Osu! Bot** | *Discord.py, AsyncIO, PostgreSQL, Matplotlib, AIOHTTP*

May 2021 - Present

- Developed a Discord bot that displays osu! scores with informative graphs and statistics
- Built custom wrappers to interact with the osu!, Akatsuki, and Ripple APIs in Python
- Utilized AsyncIO to handle requests from multiple users concurrently with low blocking
- Deployed bot on DigitalOcean and implemented custom logging to monitor performance
- Manage a cloud-hosted PostgreSQL database on NeonDB that stores user preferences

### **Portfolio Website** | *ReactJS, HTML, CSS, EmailJS, React-Router-Dom*

Feb 2023 - Apr 2023

- Developed a hash-routed digital portfolio page to showcase my personal projects
- Created a functional contact form with EmailJS to allow users to contact me
- Implemented fade transitions between routes for a optimal viewing experience

### **Jimmy's Quest For Condiments** | *GameMaker Studio 2*

Jan 2023 - Apr 2023

- Collaborated in a Agile team of four to design and create an educational two-dimensional platformer video game in GameMaker Studio 2
- Led the programming and implementation of our custom assets into a playable game
- Won first place with this project at NC State's First-Year Engineering Design Day

### **PokéBot** | *discord.py, AsyncIO, PostgreSQL*

Nov 2020 - Feb 2021

- Designed and created a Discord bot that allows user to play a Pokémon-collecting game
- Deployed bot on Heroku using Procfile, requirements.txt, and runtime.txt
- Stored user collections in a remote PostgreSQL server on Heroku

## PROFESSIONAL CERTIFICATES

**Certified Entry-Level Python Programmer**  
*Cisco Networking Academy, Python Institute*

**Introduction to Programming Using Python**  
*Microsoft Learn*