

# Manfred Fong

Bachelor of Science  
University at Albany, New York

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GitHub  
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## EDUCATION

### •Bachelor of Science in Computer Science, Minor in Informatics

2020-24

University at Albany, New York

## PERSONAL PROJECTS

### •IBM Sponsored GenAI Multimodal User Profile Generator *Lang-chain Enabled General AI prompt based assistant*

GitHub

Feb 2024-August 2024

- Enabled chat-bot to scrape the five sites within the 4000 token limit and used 20 batches to scrap 100 sites
- Achieved 90% context response accuracy by implementing local memory feature with advanced N.L.P.
- Optimized for performance, achieved 99.9% uptime; reduced response time by 25%.
- Technology Used: Python, OpenAI, LangChain, MongoDB, TavilyAI.

### •Algorithms Visualizer

*A React-based web application that allows users to visualize sorting algorithms.*

GitHub

- Optimized performance, achieving a 35% faster initial load time through server-side rendering and code splitting, with 95+ performance scores on mobile and desktop.
- Enhanced visualization clarity by incorporating real-time color-coded bar animations and interactive controls, allowing users to observe sorting steps in action.
- Deployed via Vercel with custom routing and 404 handling, enabling seamless navigation and responsive design across 7+ screen sizes, from mobile to desktop.
- Technology Used: React, TypeScript, Tailwind.

### •Personal Portfolio Website

*My digitized resume*

GitHub

- Incorporated an interactive and user-friendly interface featuring animations, transitions, and intuitive navigation to engage visitors and highlight key content.
- Implemented fluid layouts and media queries, ensuring optimal viewing experience across seven device types ranging from desktops (1920PX) to mobile (320PX)
- Technology Used: Tailwind, React.js, Bootstrap, Vite.

### •Assembler Program

*An assembler program that takes text as input and outputs bits corresponding to that text.*

GitHub

- Converted thousands of interrelated data points (100MB) into a single equation through interpolation.
- Incorporated a lexical analyzer for encoding and decoding, with internal storage up to 1000 tokens
- Implemented error detection to report syntax errors, undefined symbols, and invalid instructions
- Technology Used: Java

## PROFESSIONAL DEVELOPMENT

### •Institute of Electrical and Electronics Engineers

Jan 2022 - Aug 2024

Team Member

In-Person

- Spearheaded over 250 hours of hands-on mastery of programming fundamentals, data structures & algorithms
- Conducted programming training workshops on API and Web Development using Python, Java, JavaScript
- Liaison between industry professionals from IBM, Celsius, and Wolfjaw Studios to secure sponsorships, mentorship programs, and workshops

## TECHNICAL SKILLS AND INTERESTS

**Languages:** Java, Python, JavaScript, TypeScript, HTML+CSS

**Libraries :**Python Libraries,Tailwind-CSS, Bootstrap, ExpressJS

**Web Dev Tools:** NodeJS, VS-code, Git, GitHub

**Frameworks:** Lang-Chain, ReactJS, Angular

**Cloud/Databases:**MongoDB, Relational Database(MySQL)

**Relevant Coursework:** Data Structures & Algorithms, Operating Systems, Object Oriented Programming, Database Management System, Software Engineering.

**Areas of Interest:** Web Design and Development, Artificial Intelligence, Prompt Engineering.

**Soft Skills:** Problem-Solving, Self-learning, Presentation, Adaptability, Communication, Teamwork