Guanchao Huang (Samuel)

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EDUCATION

UNIVERSITY OF NOTRE DAME (ND) — Notre Dame, IN
Master of Science in Computer Science and Engineering — August 2023 – May 2025

SOUTHERN UNIV. OF SCI. & TECH. (SUSTECH) — Shenzhen, Guangdong, China
Bachelor of Engineering in Microelectronics Science and Engineering — September 2019 – June 2023

RESEARCH EXPERIENCE

COOPERATIVE COMPUTING LAB, ND — Notre Dame, IN
Visiting Research Student — May 2022 – Jul 2022

- Collaborated with CCL research team, enhancing the open-source HPC computing toolkit using C and Python. Utilized Git and GitHub for version control, and Linux Shell script to streamline workflow.
- Developed a transaction log visualization tool with Python that diagnosed performance bottlenecks in the distributed computing system, which became an integral tool for subsequent research projects.
- Implemented a mechanism to reduce the number of distributed workers without compromising task progress, resolving a long-standing functional request from 2016 and optimizing the system's flexibility and efficiency.

INDUSTRY EXPERIENCE

KINGA SAFETY — South Bend, IN
Project Manager & Software Engineer — July 2024 –

- Conducted code reviews, leading to the decision to replace the developer; sourced and interviewed new developers, and provided technical insights for the team.
- Re-developing Kinga, a personal safety app with features like decoy call and emergency texts. Tech stack: React Native, TypeScript, Expo, NativeWind. Also served as Project Manager and DevOps engineer. (Ongoing)

ENFOCUS — South Bend, IN
Summer Intern – Tech Consulting — May 2024 – July 2024

- Contributed to the **Connected Vehicle Pilot Program** of **THOR INDUSTRIES** as a primary project.
- Analyzed user data, including GPS travel information, demographics, treatment impact, and survey results, using data science libraries such as Pandas, Matplotlib, providing insights to protocol design.
- Developed a real-time dashboard to monitor user trips, program progress, and treatment effects using PowerBI, ArcGIS, and Azure.

BLEWBO — Shenzhen & Dongguan, Guangdong, China
Market Research Engineer — June 2023 – August 2023

- Pioneered Blewbo's business expansion into the Chinese market as the first employee, directly handling all aspects of business development and setting the foundation for the company's operations in the region.
- Facilitated seamless business communication during the executive's travel in China, acting as an interpreter and ensuring smooth business operations through cultural and strategic insights.
- Managed product supplier sourcing by identifying and finalizing business agreements with 4 factories across multiple domains.
- Directed the hiring process for the China launch, translating job descriptions, screening applicants, and orchestrating interviews, successfully hiring a Product Photographer and an HR Specialist.

ENTREPRENEURSHIP

- **Co-Founder** of **MEDOUO**, a company selling original artworks and handcrafted items.
  - Served as Project Manager on the founding team, advancing business development using project management tools and methodologies.
  - Managed digital marketing, customer support, and e-commerce platform development.
- **IT Advisor** at **ECOGRAINS ENERGY:** Recommended website-building solutions and managed IT tools, including Google Workspace and Notion, to enhance team productivity. Managed social media presence.

LEADERSHIP & SERVICE

UNIVERSITY OF NOTRE DAME (ND)   Notre Dame, IN
Ambassador Program Coordinator | Dept. Representative | Webmaster   2023 – 2024

- **Coordinator of Ambassador Program:** Initiated the Ambassador Program in the College of Engineering, collaborating with admission office to establish a trained ambassador team.
- **Dept. Representative in Grad. Student Gov.:** Represented CSE Dept. in GSG meetings.
- **Webmaster of Notre Dame Chorale**: Built and managed a website for Chorale using Conductor.

SOUTHERN UNIV. OF SCI. AND TECH. (SUSTECH)   Shenzhen, Guangdong, China
Founder & Moderator | Peer-mentor | Student President | Office Student Assistant   2020 – 2023

- **Founder and Moderator of Python User Group:** Improved technical skills and problem-solving abilities for 350+ members through collaborative learning and guidance. Additional workshops are currently being planned.
- **Peer Mentor of Zhiren College**: Mentored 40 first-year undergraduate students.
- **Student President of School of Microelectronics**: Organized events, assisted administration.
- **Member of Feng Hua Emcee Team:** Emceed/provided voice-overs for 15+ campus events.

PROJECTS

- [**Personal Website**](#)**:** A static website built with Hexo and NexT, utilized JavaScript, Nunjucks, CSS. (June 2024)
- [**Climate Change Sentiment Analysis on Reddit**](#)**:** Led a 3-student team to analyze 460k Reddit comments related to climate change using Jupyter Notebook, Pandas and various data science tools (May 2024).
- [**Wildlife Monitoring with Raspberry Pi**](#)**:** Led a 2-student team to build a system using motion sensor and webcam to detect animals, send push notifications to iPhone, and store images on Google Drive (May 2024).
- [**Compiler for B-Minor**](#)**:** A compiler for B-Minor 2023, a C-like language that includes expressions, basic control flow, recursive functions, and strict type checking, crafted in C for Intel x86 platform. (December 2023)
- [**UniTuring**](#): A Python-based UTM emulator capable of reading and executing computations on provided Turing machine tapes, complemented by a text interface that showcases the execution progression. (April 2022)
- [**ARMv3 Processor with Multiplier**](#): A processor written in Verilog, compatible with several basic ARMv3 arithmetic instructions and multi-cycle multiplication, simulated and tested in Vivado. (October 2021)
- [**Image Steganography + Hamming Codec**](#): Led a 2-student team in developing a Python tool for data embedding within images with Hamming encoding/decoding and LSB manipulation. (May 2021)
- [**Matrix Library and Strassen Algorithm**](#): Led a 4-student team in developing a custom Python matrix library, incorporating basic operations and the Strassen multiplication algorithm. (December 2020)

SKILLS AND AWARDS

Languages: Mandarin Chinese (native efficiency), with business translation/interpretation experience.

Certificates: Constantly taking MOOCs. Earned 40+ online course certificates, notably in Google Project Management Certificate, Machine Learning from Stanford, Microeconomics Principles from UIUC, Deep Learning Specialization from DeepLearning.AI, and Introduction to Psychology from University of Toronto.

Technical Skills: Python (4 yrs); C (3 yrs); Java (2 yrs); Linux and Git (4 yrs); JavaScript and React (1 yr)