**EDUCATION**

***Bachelor of Science,* Stony Brook University (SBU),** Stony Brook, NY  **07/2023-05/2024**

* ***College of Engineering and Applied Sciences;* Major:** Information Systems; **GPA:** 3.79/4.0
* **Computer Skills:** C, Java, Python, SQL/MySQL, R, JavaScript, HTML, Access
* **Honors:** Dean’s List, Stony Brook University, 2023 and 2024

***Bachelor of Engineering,* Anhui University (AHU),** Hefei, China  **09/2020-06/2023**

* ***Stony Brook Institute;* Major:** Digital Media Technology; **GPA:**3.34/4.0

**RESEARCH PROJECT**

**Spoofing Speech Detection 07/2024-Present**

* Studied VITS (conditional variational autoencoder with adversarial learning for end-to-end text-to-speech) model and mastered generative techniques, like VAE (variational autoencoder) and GAN (generative adversarial network)
* Wrote codes with Python and executed code implementation and debugging in PyCharm for completing complex mathematical derivations, which helped reproduce the model
* Extracted sample features and constructed datasets; employed CNN (convolutional neural network) and RNN (recurrent neural network) techniques to manipulate model training, fitting, and verification
* Enhanced my competence of machine learning algorithms and spoofing speech generation and detection methods

**Image Steganography Based on Generative Flow 01/2024-06/2024**

* Researched the RDHEI (reversible data hiding in encrypted images) technique with the block permutation encryption and sparse representation algorithms
* Leveraged Python for coding and the OpenCV library for algorithm optimization; programmed automated scripts for testing the impacts of key difference on data embedding and image recovery performance
* Conducted robustness experiments for measuring stability and handled the key management with PyCrypto library
* Implemented new coding strategies with MATLAB for evaluating the impact of sparse coefficient coding length on efficiency and the rationality of adaptive threshold as well as finalizing the security verification
* Plotted visualization graphs for key operation results; finally created an image encryption and embedding system

**ACADEMIC PROJECT**

**Web Development for Pokemon 09/2023-12/2023**

* Crawled raw data from Kaggle and handled data preprocessing and then clustering with the K-means algorithm
* Performed datasets analysis with multiple methods, like correlation matrix, principal component analysis, and multidimensional scaling; compared the correlations among different attributes through variance calculations
* Executed web development with HTML and wrote codes with JavaScript for the library call and deployment; finalized the front-end and back-end connection
* Added visual tools to the system for further promoting the user experience in data query, management, and analysis

**Data Visualization 03/2023-06/2023**

* Conducted web scraping with BeautifulSoup and Python; preprocessed data and stored valid data in the CSV form
* Devised a low-fidelity model with Procreate and Figma and constructed the overall system architecture
* Implemented codes using the PyQt5 and Tkinter libraries; generated data visualization trend charts with Matplotlib
* Completed system development that highlighted dynamic relationships of health indicators with the age and gender

**Computer System Hardware Comprehensive Training 03/2023-06/2023**

* Conducted computer architecture design experiments; grasped the data transmission path of each command for the multi-cycle MIPS CPU and its fundamental principles; devised a microprogram control unit
* Handled transmission circuit design and developed a multi-cycle MIPS CPU that could implement eight commands

**Database Design and Development 03/2022-06/2022**

* Carried out data crawling with Python and leveraged Java for coding to automate data cleaning for integrity
* Crafted entry-relationship (ER) diagrams for the players, teams, and game schedules; realized data query with SQL
* Concluded the database construction for 2021 UEFA European Football Champion by using SQL and Access

**PROFESSIONAL EXPERIENCE**

*Team Leader,* **Summer Social Practice Initiative 06/2022-08/2022**

* Led a team of five members to investigate income change trends of floating populations in Hefei, Anhui Province
* Designed a questionnaire and collected survey data through field interviews conducted in six vegetable markets
* Manipulated data preprocessing with the Pandas library of Python; calculated key indicators of standard deviation and mean with the NumPy library; drew data visualization charts with the Matplotlib library
* Implemented time series analysis for exploring income fluctuation rules and furthered linear regression analysis for measuring economic policy impacts; generated interactive correlation trend graphs with Tableau
* Crafted policy proposals that helped optimize market management and elevate income levels of floating populations

**LEADERSHIP EXPERIENCE**

*Head of Service Department,* **Student Union, AHU 03/2021-05/2023**

* Planned and organized multitudes of campus workshops and events through resource and personnel coordination
* Led and administered a myriad of community service programs with accumulated duration reaching 200+ hours