

# HANK YEN

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## CAREER OBJECTIVE

A highly motivated and technically proficient computer scientist with a **Master's degree in Computer Science**, I am seeking a challenging role as a **Machine Learning Engineer** and **Software Engineer**. With a strong foundation in a wide range of programming languages and tools, including **Python, Java, C++, TensorFlow, and PyTorch**, I am eager to leverage my skills to make a positive impact on innovative technology. I am open to relocation and available to commence work with a two-week notice period.

## EDUCATION BACKGROUND

**California State University, Long Beach**

Master of Science in Computer Science

**Long Beach, CA**

08/2021 – 06/2023

**National Taipei University of Education**

Bachelor of Science in Computer Science

**Taipei, Taiwan**

09/2016 – 06/2020

## TECHNICAL SKILLS

**Languages:** Python(6y+), Java(6y+), C++(5y+), HTML, CSS, JavaScript, SQL, C#, VBA.

**Tools:** TensorFlow, Keras, PyTorch, Transformers, Spark NLP, Voice-To-Text, RNN, LSTM, CNN, BERT, GPT, LangChain, Hugging Face, Flask, Django, Docker, REST API, AWS, Linux, C#.NET, Scikit-Learn, NumPy, Pandas, OpenCV, OpenPose, Bootstrap, jQuery, React.js, Matplotlib, Git, JUnit.

## WORK EXPERIENCE

**Medical Home Center**

Chief AI Officer – Full Time

**Westminster, CA**

07/2023 – Present

- Strategically aligned AI initiatives with business objectives, effectively integrating AI across projects to drive innovation, efficiency, and competitive advantage.
- Spearheaded the integration of an AI chatbot onto the company's website, simplifying user engagement by delivering personalized assistance and enriching visitor experiences.
- Pioneered AI-powered data visualization tools, enabling data-driven decision-making and fostering effective business strategies through insightful analysis.
- Led the advanced implementation of ChatGPT organization-wide, enhancing workflow efficiency and providing rapid access to accurate information for all employees.

**CTBC Bank Co., Ltd.**

Software Developer - Intern

**Taipei city, Taiwan**

02/2020 – 06/2020

- Worked on Robotic Process Automation (RPA) projects, orchestrating end-to-end development, deployment, and management of software robots, resulting in heightened productivity, substantial cost savings, and enhanced business processes.

**Control Technology Co., Ltd.**

Software Developer - Intern

**Tainan city, Taiwan**

07/2019 – 08/2019

- Engineered tailored LabVIEW virtual instruments with graphical interfaces, overseeing hardware control, program execution, and result display; executed precise debugging, tests, and analysis to optimize system performance and functionality.

## PROJECTS

**LangChain ChatBot Application**

2023

- **Achievement:** Boosted customer engagement by 30% and enhanced response accuracy by 25% by developing a sophisticated chatbot, resulting in a highly responsive and customizable user experience.
- **Methodology:** **Python, OpenAI's models, LangChain, Flask, RESTful API, AWS, Linux.**
- **Description:** Spearheaded the creation of a state-of-the-art chatbot application, capitalizing on OpenAI's cutting-edge language models and LangChain's versatile capabilities. Custom datasets were curated to provide users with personalized interactions. The chatbot was seamlessly integrated into our platform through Flask, offering a user-friendly and dynamic experience.

**BERT Text Intent Classification**

2023

- **Achievement:** Achieved a remarkable 98% intent classification accuracy, enhancing user experience and system performance by developing an intent classification model. Leveraged pre-trained BERT from Transformers to provide robust understanding of user queries.
- **Methodology:** **Python, PyTorch, Transformers, BERT, Pandas, Matplotlib, NumPy.**
- **Description:** Developed a cutting-edge intent classification model using pre-trained BERT from Transformers. Data preprocessing was carried out efficiently using PyTorch and Pandas, ensuring high-quality input. The neural network architecture was fine-tuned and optimized for superior performance, achieving an impressive 98% accuracy. Training progress and model performance were

visually monitored using Matplotlib. The trained model was seamlessly integrated, enabling real-time intent prediction and enhancing overall system responsiveness.

#### **LSTM Audio Emotion Classification**

2023

- **Achievement:** Achieved 71% accuracy in audio emotion classification, enhancing emotion analysis capabilities. Developed an LSTM-driven solution that effectively analyzes audio data for emotional content.
- **Methodology:** **Python, TensorFlow, Keras, LSTM, CNN layers, MFCCs, Seaborn, Matplotlib.**
- **Description:** Developed an advanced LSTM-driven audio emotion classification solution. Visualizations of audio waveforms and spectrograms were generated using Seaborn and Matplotlib, while label encoding ensured data readiness. The architecture, based on TensorFlow, Keras, LSTM, and CNN layers, was meticulously designed for robust analysis. The model was trained using customized MFCCs (Mel-frequency cepstral coefficients) features, resulting in 71% accuracy in audio emotion classification. The trained model was seamlessly integrated into real-world audio data for further applications, enriching emotion analysis capabilities.

#### **Search Engine Application**

2022

- **Achievement:** Achieved a remarkable 20% improvement in search accuracy, reduced query response time by 30%, and ensured 99.9% reliability with rigorous testing. Advanced text preprocessing techniques boosted search precision by 15%
- **Methodology:** **Java, SQL, Text Preprocessing, Junit, OOP Principles.**
- **Description:** Spearheaded the development of a robust search engine application, leveraging Java's capabilities and advanced OOP principles. The application was engineered for efficiency and maintainability, ensuring a solid foundation. Integration with an SQL database streamlined data management, optimizing search performance. To establish reliability, comprehensive JUnit unit tests were implemented, guaranteeing a dependable search system. Advanced text preprocessing techniques, such as stemming and stop words removal, were applied to enhance search accuracy, ultimately improving user experience.

#### **CNN Image Classification**

2022

- **Achievement:** Achieved an impressive 94% accuracy in image classification, enhancing model performance and insights by developing a Convolutional Neural Network (CNN) architecture. Employed TensorFlow Datasets for efficient loading and preprocessing of image datasets.
- **Methodology:** **Python, TensorFlow, CNN, Decay Rate, Optimizer.**
- **Description:** Spearheaded the development of a powerful Convolutional Neural Network (CNN) for image classification. TensorFlow Datasets were leveraged to efficiently load and preprocess image datasets, ensuring high-quality input. The CNN architecture was meticulously crafted and trained to achieve remarkable accuracy. Dynamic learning rate scheduling, blending Decay Rate and optimizer strategies, further enhanced the model's performance. The project's success was validated through impactful visualizations, which tracked the training history and provided invaluable insights for refining the model.