Basel Ashraf Fikry Askar

Resume

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Objective

Detail-oriented Computer Engineering and Software Systems student with a focus on computer vision and natural language processing. Seeking internship opportunities in utilizing PyTorch, CLIP, and GPT for innovative projects at the intersection of vision and language processing.

Education

Expected Graduation: May 2026

Bachelor of Science in Computer Engineering and Software Systems, *University of East London*, London, UK
Relevant coursework in Computer Vision, Natural Language Processing, and Software Engineering.

Skills

Technical Skills

- Python (Proficient)
- PyTorch (Familiar)
- CLIP (Familiar)
- GPT (Familiar)

Computer Vision

- Strong understanding of computer vision principles and techniques.
- Experience in developing computer vision applications for document analysis.

Natural Language Processing

- Knowledgeable in natural language processing fundamentals.
- Experience with language models such as GPT for text generation tasks.

Experience

Feb 2024 – March 2024 **Machine Learning Intern**, *IEEE (Institute of Electrical and Electronics Engineers)*, Cairo, EG

Applied computer vision and natural language processing techniques to real-world problems through coursework and internship projects.

March 2024 – April 2024 **Machine Learning Intern**, *Prodigy InfoTech*, Mumbai (Remote)

- Developed machine learning models for predicting house prices, customer segmentation, image classification, hand gesture recognition, and food recognition.
- Used TensorFlow, Google Colab, and Kaggle datasets extensively for preprocessing, model training, and evaluation.
- Built a regression model to predict house prices with TensorFlow, achieving accurate predictions by considering factors like square footage and number of bedrooms.
- Implemented K-means clustering for customer segmentation in Google Colab, utilizing scikit-learn's K-means algorithm.
- Utilized TensorFlow and Kaggle datasets to implement support vector machines (SVM) for image classification, achieving accurate classification of images.
- Developed a convolutional neural network (CNN) architecture for hand gesture recognition using TensorFlow and Keras, achieving accurate recognition with the LeapGestRecog dataset.
- Fine-tuned pre-trained CNN architectures for food recognition and calorie estimation using transfer learning, resulting in accurate food recognition and calorie estimation from the Food-101 dataset.
- Leveraged Google Colab's GPU support for efficient experimentation and optimization of machine learning models.
- Gained valuable insights into real-world applications of machine learning and improved skills in TensorFlow, Google Colab, and model development.

Recent Projects

- **Fraud Detection System**
  - Developed a fraud detection system using machine learning algorithms like Random Forest and XGBoost.
  - The system analyzes banking transactions and identifies potentially fraudulent activities with an accuracy of 95%.
- **Document Classification System**
  - Built a document classification system for financial documents using natural language processing techniques.
  - Implemented deep learning models with TensorFlow to classify documents accurately, achieving an accuracy of 98%.
- **Plant Disease Detection**
  - Trained a convolutional neural network (CNN) model to detect plant diseases from images.
  - Used transfer learning with pre-trained models like ResNet34 to achieve an accuracy of 98%.
  - The system can identify 38 classes of plant diseases.
- **Object Detection with CLIP**
  - Implemented object detection using CLIP, a vision-language transformer model.
  - Trained CLIP on a custom dataset, achieving state-of-the-art results in object recognition tasks.

Certifications

- **Foundations of Computer Vision**
  Certified in foundational concepts and techniques of computer vision, with exposure to PyTorch and CLIP.
- **Introduction to Natural Language Processing**
  Completed training in basic principles and tools of natural language processing, including introductory usage of GPT.
- **Data Analysis Fundamentals**
  Received certification in fundamental data analysis techniques, with a focus on extracting insights from data using Python.
- **Basic Deep Learning with PyTorch**
  Attained proficiency in basic deep learning concepts and practices using PyTorch, particularly for simple computer vision tasks.
- **CLIP Basics**
  Completed a course covering basic usage and understanding of CLIP for vision-language integration tasks.
- **Introduction to Text Generation**
  Acquired foundational knowledge in text generation techniques using GPT models, suitable for basic natural language processing tasks.
- **Python Programming Essentials**
  Acknowledged proficiency in Python programming essentials, essential for implementing machine learning algorithms and data processing tasks.
- **Introduction to Prompt Design**
  Completed introductory training in prompt engineering, focusing on basic design principles for improving model performance in natural language processing tasks.

Languages

English **C1** -IELTS Academic Certified-
German **A1**
Arabic **C2**

Additional Information

Tech Meetups Active participant in local tech meetups focusing on computer vision and natural language processing.

References

Dr. Ahmed Atef Ahmed Ali, Ph.D.
- Associate at University of Calgary
- Tenured Research Fellow (Assistant Professor) & Group Leader.
- Ph.D. Molecular & cell biology (First Excellence Academic Performance award)
- M.Pharm. Microbiology & Immunology, B.Pharm. Hons, Pharmacy
- More than 16 years of postgraduate research & academic teaching experience
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Dr. Shruti Mendiratta, Ph.D.
- Teaching Faculty (University of Calgary, Thompson Rivers University)
- Chief Technical Officer (Canadian Expert Solutions)
- Postdoctoral Associate (University of Calgary)
- Ph.D. Chemistry (National Taiwan University)
- MSc. Chemistry (University of Delhi)
- Certified in University Teaching and Learning & Teaching Online (University of Calgary)
- 14 years of postgraduate research & training experience
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