

Obed Junias

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EDUCATION

BE in Computer Science at BMS College of Engineering, Bangalore (GPA: 9.13/10) 2021

Coursework: Data Structures, Algorithms, Operating Systems, Computer Networks & more...

Online: Machine Learning, Deep Learning and Natural Language Processing Specialization

INDUSTRY EXPERIENCE

Senior Member of Technical Staff at Oracle Corporation, Bangalore, India August 2021 - present

- Developed solutions to test machine learning driven [Oracle Cloud Autonomous Databases](#).
- Led a 15-member team to test the [Autonomous Database Tools](#) feature on Oracle Cloud Infrastructure.
- Implemented TestNg (Java) and Bats frameworks for 95% reduction in manual effort and 20% accuracy improvement in E2E testing of [Oracle Rest Data Services](#) and [SQLcL](#).
- Designed and Developed a framework to test [Oracle Machine Learning APIs](#) and [Oracle APEX](#).

RPA Developer Intern at Hewlett Packard Enterprise (HPE), Bangalore, India Feb 2021 - Jul 2021

- Developed intelligent automation to streamline business processes using Groovy and Workfusion.
- Implemented text extraction module for integration into software robots using [Workfusion's IDP](#)
- Conducted a Proof of Concept on Intelligent Business Process Management Software (iBPMS) tools.

RESEARCH EXPERIENCE

Undergraduate Researcher at B.M.S College of Engineering, Bangalore Aug 2020 - Mar 2021

Skills: scikit-learn, nltk, Flask, Computer Vision [🔗](#)

- Led a team to address offline overspending by creating an AI app using Flask for my capstone project.
- Curated a comprehensive dataset by scraping e-commerce websites and annotating them manually.
- Engineered the NLP submodule for text preprocessing and product categorization.
- Developed a stack-ensemble model to classify items into pre-defined categories (avg F1-score 0.97).

Samsung Research Intern at Samsung Research Institute, Bangalore, India Feb 2020 - Jul 2020

Skills: Reinforcement learning, OpenAI Gym, IoT, Raspberry Pi

- Implemented reinforcement learning agent utilizing the Q-learning algorithm, with Raspberry Pi devices acting as Wi-Fi nodes to optimize the Wi-Fi mesh network and enable interoperability.
- Achieved significant improvement in client throughput (30%) and band steering time.
- Conducted in-depth research on AI algorithms, wireless protocols like 802.11ac and QoS mechanisms.

PATENTS AND PUBLICATIONS

- T, Levina, Junias, Obed, et al. 2023. **Innovations in Natural Language Processing for Efficient Data Privacy and Security**. Indian Patent Office. No: 202341065260, *published: 06/10/2023*.
- Junias, Obed, et al. **ProEns: Ensemble technique for Product Category Classification** Accepted for publication in Journal of Economic Computation & Economic Cybernetics Studies & Research (ECECSR)

RELEVANT PROJECTS

Intent-based Chatbot for Mental Health Information and Uplifting [🔗](#) [📄](#)

- Deployed a chatbot to promote mental health awareness and facilitate uplifting conversations. Trained the intent classification model with a gradient-boosting classifier and deployed it on Streamlit.

Emotion Analysis using Trees and Bi-LSTM with LIME Interpretability [🔗](#)

- Designed and Implemented a decision tree classifier to predict the emotion of text sentences. **Achieved 84% accuracy**. Used **LIME** to interpret the model's predictions.

Transformer Model for English to Kannada Translation

- Built a **custom transformer model with 6 enc-dec layers** to translate English to Kannada, a low-resource language. Trained the model on 200k text sentences for 12 epochs on a free Kaggle GPU.

Chatbot using Falcon 7B Language Model for Mental Health Support

- Fine-tuned the **Falcon 7B language model** for text generation to provide mental health support. Trained the model on the mental health conversation dataset. Used PEFT-QLoRA for quantization.

Sentiment Analysis of English and Hindi Texts Using LSTM

- Utilized Long Short-Term Memory (LSTM) networks to implement a robust sentiment analysis system, achieving an impressive **accuracy of 92% for English and 83% for Hindi**.

Gemini Text-to-SQL Data Retrieval App

- Deployed a Streamlit web app, leveraging the **Google Gemini Pro** model, to translate English questions into SQL queries and perform data retrieval on a database.

Language Detection Using Naive Bayes and Bi-LSTM

- Developed an advanced Language Detection model using Naive Bayes and Bi-LSTM to identify 22 languages. **Achieved 95% accuracy for MNB and 83% for Bi-LSTM** with 10 epochs.

UNIVERSITY SERVICE/VOLUNTEERING

- **Swasthya Seva Initiative:** Developed an application utilizing the MERN stack that helped people locate critical care centers with ICU beds during the COVID pandemic. Our efforts were acknowledged by the local minister and featured in a local newspaper.
- **Lecture Capture System:** Developed an end-to-end application using Raspberry Pi to record live lectures and provide access to students, along with supplementary study materials. Implemented a web application using the MERN stack and deployed it on the AWS cloud.
- **Blockchain and Data Analytics Hackathon:** Successfully organized a hackathon with 30+ participating teams, garnering positive feedback from all stakeholders for the well-organized execution.
- **Utsav College Fest:** Was part of the organizing committee for the three-day college cultural event. Leveraged organizational and teamwork skills to ensure the smooth operation of the event.

AWARDS AND ACHIEVEMENTS

- **Foundation For Excellence Scholarship:** Was awarded a scholarship of 70k INR per year for four years in recognition of my exceptional performance and grades.

ONLINE COURSES AND CERTIFICATIONS

- **Machine Learning Specialization (3 courses)** by *Stanford University and Deeplearning.ai*
- **Natural Language Processing Specialization (4 courses)** by *Deeplearning.ai*
- **Neural Networks and Deep Learning** by *Deeplearning.ai*
- **Convolutional Neural Networks in TensorFlow** by *Deeplearning.ai*
- **Introduction to TensorFlow for Deep Learning** by *Deeplearning.ai*
- **AWS Fundamentals: Going Cloud-Native** by *Amazon Web Services*
- **Google Cloud Fundamentals: Core Infrastructure** by *Google Cloud*

SKILLS

- **Languages:** Python, Java, C++, and R.
- **Research/Industry Knowledge:** Software Development, Artificial Intelligence (ML, DL and NLP), Finetuning LLMs, Data Analysis, Robot Process Automation.
- **Tools and Frameworks:** Scikit Learn, PyTorch, Tensorflow, React.js, Node.js, Flask, MongoDB, AWS, SQL, Cassandra DB.