

# Isha Andrade

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Driven Computer Science student with a passion for data science and a strong track record of academic excellence. Proven experience in developing deep learning models across the cybersecurity, finance, and healthcare domains. Adept at thriving in fast-paced startup environments and eager to transform data-driven insights into impactful solutions.

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## ACADEMIC QUALIFICATIONS

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**BITS Pilani, Dubai Campus** | *B.E.(Hons.) in Computer Science*

*Dubai, UAE | 2020 - Present*

- **Cumulative GPA: 9.384 / 10.0**
- Achieved a 25% merit scholarship for securing a GPA above 9.0 in every semester till present

**St. Joseph's School, Abu Dhabi**

*Abu Dhabi, UAE | 2016 – 2020*

- Achieved **92.2%** in the Grade 12 CBSE Examinations

**Relevant Coursework:** Data Structures and Algorithms, Foundations of Data Science, Machine Learning, Artificial Intelligence, Natural Language Processing, Optimization, Database Systems, Technical Report Writing

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## SKILLS

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- **Languages:** Python, SQL, Git, Java, C, C++, JavaScript, Dart (Flutter), Kotlin, HTML, CSS
- **Libraries:** NumPy, Pandas, PySpark, Matplotlib, Seaborn, Scikit-Learn, Keras, Tensorflow, PyTorch, OpenCV, NLTK, Hugging Face Transformers
- **Software:** Excel, MySQL, Power BI, Spring Boot, Redis, Jupyter Notebook, Github, PyCharm, IntelliJ, Figma
- **Interpersonal & Communication Skills:** Strong language proficiency in English and Hindi, Elementary language proficiency in German, Technical Report Writing Skills, Creative Writing Skills, Adaptability, Problem Solving Skills

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## WORK EXPERIENCE

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**raag** | *Founder*

*Dubai, UAE | 07/2024 – Present*

- Ideated and conceptualized **raag**, an AI-driven platform to gamify music practice for users and offer personalized practice schedules tailored to each user's skill level and goals.
- Created and refined wireframes using Figma to outline the platform's user interface and user path.

**First Response Healthcare** | *Software Engineer Intern*

*Dubai, UAE | 01/2024 – 07/2024*

- Developed the Minimum Viable Product (MVP) for an assessment AI feature to be integrated into the company's app which uses facial detection technology to estimate a user's blood pressure non-invasively.

- Collaborated with a team of developers using Git and Github to create the company's app, employing Flutter with BLoC state management for a responsive UI, and Spring Boot with Kotlin and Firebase Cloud Messaging for backend development.

**BITS Pilani, Dubai Campus** | *OOP Lab Assistant, CS Dept.*

*Dubai, UAE* | 09/2023 - 12/2023

- Strengthened Students' understanding of various Object Oriented Programming concepts through Java.
- Delivered personalized guidance, resolving lab queries and debugging errors, fostering enhanced student learning outcomes.

**Borouge, ADNOC Group** | *Summer Intern*

*Abu Dhabi, UAE* | 06/2022 – 08/2022

- Built strong rapport with Borouge's computer science team by facilitating regular team meetings, fostering communication and teamwork skills.
- Maintained punctual task submission and crafted weekly progress reports, refining adept time management skills while paying close attention to details

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## PROJECTS

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### Deep Learning for IoT Network Security

- Designed and implemented two novel Deep Learning models: a two-layer Convolutional Neural Network (CNN) and a two-layer Long-Short Term Memory (LSTM) model.
- Trained the models on the CICIoT2023 dataset, a real-time benchmark dataset encompassing various large-scale attacks in IoT (Internet of Things) environments, including DDoS and Brute force attacks.
- Conducted three types of classification tasks:
  - Binary Classification: distinguishing between malicious and benign network traffic.
  - Grouped Classification: categorizing network attacks into 7 groups.
  - Multi-class Classification: identifying 33 different types of IoT network attacks.
- Achieved exceptional accuracies with the proposed models:
  - **CNN model: 99.34% (binary), 99.02% (grouped), and 98.62% (multi-class).**
  - **LSTM model: 99.42% (binary), 99.13% (grouped), and 98.68% (multi-class).**
- Performed a comparative analysis with four traditional Machine Learning models (Logistic Regression, AdaBoost, Perceptron, and Random Forest), where Random Forest outperformed the other models with accuracies of **99.75%, 99.63%, and 99.51%.**

### Chest Disease Detection and Classification

- Employed transfer-learning (leveraging the architecture of state-of-the-art Deep Learning models in custom models, in this case, **Residual Networks**) to detect different types of chest disease from X-Ray Images
- Performed data visualization using the Matplotlib and Seaborn python libraries and developed a model that achieved a **78%** accuracy in detecting different types of chest diseases such as Pneumonia and Covid-19

### Stock Market Price Prediction

- Built a predictive model to forecast stock market close prices using a Sliding-Window Long Short-Term Memory (LSTM) approach.
- Trained the model on the S&P 500 index dataset, spanning almost a century of close prices for the top 500 companies.
- Evaluated model performance using mean-absolute error (MAE) and Root Mean Square Error (RMSE), achieving **MAE of 11.08** and **RMSE of 12.76**, demonstrating accurate prediction capabilities.

### **Chess Engine using Reinforcement Learning**

- Developed a chess engine using reinforcement learning (RL) techniques.
- Implemented a reward-based system where the computer learns to make moves based on favorable outcomes (winning the game).
- Trained the engine over time, observing its gradual improvement in performance.
- Achieved notable success, winning a total of 13 games after training for 3 hours, with continued improvement observed with extended training durations.

### **Al Hosn App Clone**

- Developed a Java-based clone of the Al Hosn App, a Covid-19 management application used in the UAE.
- Implemented features to display Covid-19 Vaccination and Test Results secure.
- Integrated a simple OTP system to ensure data privacy, sending OTPs to users' registered email IDs for authentication.
- Provided users with access to their test results, vaccination history, and relevant information upon successful authentication.

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## **AWARDS AND CERTIFICATIONS**

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- **Summer Insurance Broking Game Development Competition**, June to August, 2023, 3<sup>rd</sup> place
- **Power BI in Data Analytics (Forage)** issued by PwC Switzerland in December, 2023
- **Neural Networks and Deep Learning (Coursera)** issued By DeepLearning.AI in November, 2023
- **Getting Started with Flutter Development (Coursera)** issued by Google Cloud in February, 2024
- **What is Data Science? (Coursera)** issued by IBM in April, 2024

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## **EXTRACURRICULAR ACTIVITIES**

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- Awarded a Distinction in the Trinity Grade 8 Piano Exam held in April 2023
- Member of Treble, the Music Club of Bits Dubai
- Core Committee Member of the Spectrum 2023 and 2024 events hosted by the Make a Difference (MAD) club at BITS Pilani, Dubai which focused on providing a day of fun games and activities for children with disabilities