Ruthran RAGHAVAN

CEO & Chief AI Scientist of HERE AND NOW AI

+91 89 39 56 1000 ruthran@hereandnow.co.in https://www.linkedin.com/in/ruthranraghavan/

An accomplished AI/ML Data Research Scientist with over a decade of expertise in cognitive science, human intelligence, artificial intelligence, and language acquisition. I specialize in designing AI-driven technologies that enhance personalized learning experiences, develop advanced conversational AI systems, and optimize operational workflows through automation. With a robust foundation in statistics, research methodology and AI, I leverage machine learning techniques, including reinforcement learning and neural networks, to create innovative solutions, particularly in the context of language learning. My passion for advancing AI, combined with my experience in researches, drives me to seek opportunities in dynamic environments—whether in industry, advanced academic research, or PhD studies—where I can contribute to transformative AI and educational applications.

CONTRIBUTIONS

Chief AI Scientist
HERE AND NOW Artificial Intelligence Research Institute
06/2018 – ongoing

Predictive AI Models : Built predictive models with Random Forests, GBMs, and LSTM networks for student enrollment and success forecasting, improving predictive accuracy by 20%, course completion rates by 25%, reducing marketing cost by 25% & increased sales by 18%.

OCR Systems for Education : Designed CNN-based OCR systems to digitize handwritten materials, boosting accessibility and reducing manual data entry by 85%.

Automated Evaluation Systems : Created deep learning models (CNNs, GANs, RNNs) for real-time grading of open-ended responses, achieving +/- 3% accuracy compared to human evaluators and reducing grading time by 70%.

Conversational AI Systems : Led deployment of models like GPT, Mistral, and Llama 3.1 with fine-tuning and prompt engineering to boost multilingual user engagement, particularly in French, German & English, increasing vocabulary and grammar retention by 40%.

Reinforcement Learning & RAG Systems : Enhanced chatbot and voice-bot adaptability for language teaching using RLHF, and developed RAG systems to improve content delivery and administrative efficiency.

Probot (Professor Robot) Project : Currently developing AI-powered educational assistant for French, German & English language learning using advanced NLP models and TTS modules, improving student engagement by 30%.

Data & Cognitive Scientist (*AI & HI*)
HERE AND NOW – The Language Institute
07/2011 – 01/2025

AI-Driven Language Education : Pioneered AI integrations in French language education, creating adaptive learning models that utilize predictive analytics and natural language processing. Resulted in a 30% increase in course retention and higher student satisfaction rates.

Interactive Learning Platforms : Designed AI-powered platforms for dynamic French language content creation, implementing adaptive algorithms to cater to individual learning styles and improve engagement rates by 50%.

Data-Driven Decision Making : Applied data analytics and statistical modeling to optimize French language curricula, leveraging insights from regression analyses and clustering methods to improve learning pathways and outcomes.

Operational AI Integration : Automated administrative functions and developed AI-powered tools for performance tracking, enabling instructors to offer tailored support and interventions, contributing to a 25% increase in student success rates.

EDUCATION

M.Sc. Psychology
Madras University, India
08/2010 – 04/2012

- **Conducted advanced research in psychological methodologies** , utilizing statistical modeling techniques like logistic regression, ANOVA, and t-tests to derive insights into cognitive functions and behavior. These research skills provided a robust foundation for AI model development and performance evaluation.

- **Developed predictive models** using regression analysis and hypothesis testing to validate psychological theories, contributing to AI applications in user behavior analysis and engagement prediction.

- **Developed deep statistical knowledge and data analysis skills** through the application of quantitative research methods. This expertise enabled the creation of robust data-driven models, enhancing the reliability and validity of research findings.

- **Engaged in research projects** that explored cognitive functions and their implications, applying statistical techniques to analyze patterns and correlations. These experiences honed skills in interpreting complex data sets, critical for AI model development and evaluation.

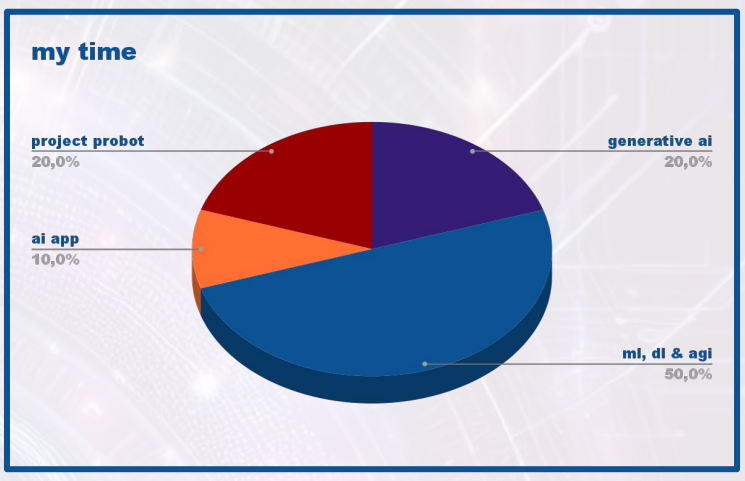
B.Sc. Psychology
Madras University, India
08/2007 – 05/2010

- **Explored cognitive neuroscience principles** , providing an early foundation for understanding neural networks and their applications in artificial intelligence.

- **Engaged in research that applied cognitive psychology** theories to machine learning, enhancing knowledge in areas such as memory models, decision-making processes, and neural network design.

PROJECTS & INNOVATIONS

1. Predictive Enrollment Machine Learning Model.
2. Predictive Success Machine Learning Model.
3. Automated Evaluation Machine Learning Model.
4. Engaging & Advanced Language Curriculum.
5. Machine Translation Projects.
6. Conversational AI Chatbots (2018).
7. Retrieval-Augmented Generation (RAG) Systems.
8. AI-Powered Adaptive Learning Platforms.
9. Real-Time Data-Driven Decision Systems.
10. Probot (Professor Robot) – in progress



TOOLS

Artificial Intelligence & Machine Learning

- Libraries:

PyTorch TensorFlow Keras Scikit Learn NLTK Hugging Face

Openai GPT, Openai ada embeddings:

Reinforcement Learning & Retrieval systems:

Openai Gym elasticsearch haystack rllib LangChain

- Large Language Models & Augmented Generation:

GPT-3, GPT-4, Llama, Dall-e, Mistral

Data Science & Algorithm Development

- Data Analysis & Visualization:

Pandas NumPy Matplotlib SPSS

- Algorithm Development: Python

- Model Deployment:

docker kubernetes AWS SageMaker

Software Development & Blockchain for AI

- Web Development Technologies:

Svelte Node.JS TypeScript HTML5 CSS WordPress

- AI Chatbot Development & Blockchain:

DiglogFlow RASA Solidity Chainlink

- Human Languages:

French (C2) English (C2) German (A2) Hindi (A2)