Darrin Bright

Generative AI | Deep Learning | Software Engineering

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Education

Vellore Institute of Technology (VIT)   **CGPA: 8.99**   Vellore, India
Integrated Master of Technology in Software Engineering   *2022-2027*

- **Relevant Coursework**: Artificial Intelligence (AI), Machine Learning (ML), Natural Language Processing, Data Mining, Computer Networks, Data Structures and Algorithms, Database Management Systems, Operating Systems, Python Programming, Object Oriented Programming

Chettinad Vidyashram, Chennai   **Grade: 90.6%**   Chennai, India
AISSCE Class 12   *2008-2021*

- **Achievements**: General Proficiency (GP)- 2012 and 2013

Experience

Astute   Vellore, India
Project Manager & Technical Lead- Intern   *October 2024 - Present*

- Developing an SEO automation framework with specialized agents like Keyword Researcher, InsightQ, Technical, On-Page, Off-Page that streamlines workflow from research to implementation and generating strategic recommendations to optimize search performance.
- Developed an SEO-optimized blog generator using Gemini-Flash that analyzes market trends by extracting high-potential keywords from Google Ads and Google Trends data, evaluating factors including search volume, interest over time, growth rate, CPC, and demographics.

Generative AI & ML Engineer- Intern   *July 2024 - October 2024*

- Developed BloggerAI model leveraging Gemini backbone designed to generate relevant blogs from product information for small-scale and rural manufacturers or business owners.
- Developed Social Spark model, an automated system for video advertisements and poster generation, combining Stable Diffusion for poster design and Gemini for tagline creation with optimized tagline placement.

Vicuna Kouture   Vellore, India
AI Specialist- Intern   *July 2024 - August 2024*

- Experimented with various text-to-image diffusion models to generate unique t-shirt designs, achieving optimal results with the Stable Diffusion model.
- Performed extensive prompt engineering to refine and identify the most effective prompts for generating visually appealing outputs.
- Collaborated with the back-end team to integrate the AI model using FASTAPI, ensuring smooth deployment.

IEEE Robotics and Automation Society   Vellore, India
Chairperson   *December 2024 - Present*

- Managing a chapter of over 500 students, organizing hackathons, workshops, and tech talks to inspire learning in robotics and automation.
- Mentored a team of juniors by conducting sessions on ML and Generative AI frameworks like LangChain to enhance their skills and knowledge in the field of AI and automation.

Technical Projects

Smart Farming with Deep Learning   March 2025 - Present
GitHub Link

- Developing an agricultural system to collect soil parameters and plant images for yield production, crop disease identification, crop recommendations, and market price forecasting using DL models.
- Integrating LLMs to analyze predictive outputs and deliver actionable insights, enabling farmers with tailored recommendations for improved decision-making in agricultural practices.
- Implementing a multilingual chatbot interface and feedback loop mechanism to enhance accessibility for diverse farming communities.

Quest2Clip   April 2025

GitHub Link
- Developed an automated system that creates multimedia content by combining dynamically generated scripts and audio with relevant visual content.
- Integrated Google's Gemini 2.0 Flash for script generation and implemented a dual-source media acquisition system that pulls relevant visuals from both Pexels API and YouTube using yt-dlp.
- Developed a video production pipeline with MoviePy and FFmpeg that processes multiple video clips, adds dynamically generated captions, and synchronizes with generated speech output.

Hybrid Neural Network for Stock Prediction   October 2024

GitHub Link
- Developed a hybrid stock prediction model combining Long Short-Term Memory (LSTM) network for capturing temporal dependencies and Multi-Layer Perceptrons (MLP) for non-linear feature extraction.
- Achieved a **55.66% reduction** in Mean Squared Error (MSE) and a **38.65% decrease** in Mean Absolute Error (MAE) by integrating MLP with LSTM, resulting in a significant increase in accuracy.

PDF Question Answering System using RAG   September 2024

GitHub Link
- Developed a PDF-Question Answering (QA) system utilizing Retrieval-Augmented Generation (RAG) to extract, chunk, and store document text in a FAISS vector database for efficient semantic search and retrieval.
- Integrated Google Gemini Pro for generating accurate, context-aware responses to queries based on the retrieved document data.

Real-Time Vehicle Detection and Tracking   June 2024

GitHub Link
- Developed a real-time robust traffic monitoring solution using computer vision tools.
- Utilized YOLOv5 for vehicle detection and SORT (Simple Online and Realtime Tracking) for multi-object tracking.
- Performed vehicle counting by leveraging SORT's built-in track association mechanism, which uses the Hungarian algorithm for matching detections with existing tracks.

Skills

Languages	Python | C++ | C | SQL | HTML | CSS | JavaScript
Library & Framework	Langchain | TensorFlow | Keras | OpenCV | NumPy | Pandas | Scikit-learn | NLTK | FAISS | Matplotlib | Seaborn
Database	MYSQL | Vector Database
AI/ML Techniques	Supervised Learning | Unsupervised Learning | Artificial Neural Networks | Convolutional Neural Networks | Transformers | Retrieval Augmented Generation | Natural Language Processing | Deep Learning | Large Language Models
Certification	Machine Learning A-Z, Udemy

Honors and Awards

Second Runners up of HackWar Hackathon, *Vellore Institute of Technology, 2025*
Runners up of Startup Demo Day, *Vellore Institute of Technology, 2025*
Winners of Project 2039 Hackathon, *Vellore Institute of Technology, 2024*
Winners of Alphaforge Ideathon, *Vellore Institute of Technology, 2024*
Runners up of Biomimicry Innovation Challenge, *Vellore Institute of Technology, 2024*

Extra-Curricular

Volunteer | **National Service Scheme, NGO**
Engaged with students at government schools and conducted sessions on career opportunities
Volunteer | **Becoming I Foundation, NGO**
Participated in outreach programs, visiting government schools to teach foundational science, math, and english
Prefectorial Body Member | **V-Care Club**
Participated in club activities such as growing plants, organizing newspaper recycling initiatives

Declaration

I, Darrin Bright, hereby affirm that the aforesaid information is true to my knowledge, as of February 3rd, 2025. Certificates are available upon request.