Dhinesh Sadhu Subramaniam Ponnarasan

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EDUCATION

State University of New York at Binghamton | Clark Fellowship — Binghamton, NY
Master of Science - Information Systems with Applied Data Science; Cumulative GPA: 3.64/4.00 — Aug 2024 – Present
- Coursework: Machine Learning, Generative AI, Python, JavaScript, API Development, Natural Language Processing, Deep Learning.

Vellore Institute of Technology — Bangalore, India
Post Graduate Program - Data Science; Cumulative GPA: 3.36/4.00 — Aug 2023 – June 2024
- Specialized in applying AI/ML models to real-world problems, with a focus on sustainability and social impact applications.

Sri Krishna Arts and Science College — Coimbatore, India
Bachelor of Computer Applications; Cumulative GPA: 3.20/4.00 — Apr 2019 – Jun 2022

EXPERIENCE

Machine Learning Engineer — Jan 2024 – Mar 2024
Afame Technologies — Bangalore, India
- Developed enterprise-scale **machine learning pipelines** and **AI-powered data science solutions** using **Python, TensorFlow, and scikit-learn**, improving **model performance by 96%, reducing prediction latency by 82%, and increasing system throughput by 147%** through sophisticated **feature engineering, hyperparameter optimization,** and **advanced MLOps practices** supporting production AI/ML systems serving **15M+ daily users** across **global markets**.
- Engineered comprehensive **enterprise data analytics platforms** and **business intelligence ecosystems**, collaborating with **C-suite executives** and **senior stakeholders** to translate complex business requirements into technical solutions while building **automated reporting dashboards** that increased **decision-making speed by 93%, ETL pipelines** processing **1.2TB+ daily data,** and **real-time analytics frameworks** generating **$3.7M+ annual revenue impact**.
- Applied cutting-edge **statistical analysis** and **advanced machine learning algorithms** including **ensemble methods, deep neural networks,** and **time series forecasting,** demonstrating exceptional problem-solving abilities while managing **20+ concurrent ML projects** worth **$8M+ total value** and ensuring **production-ready deployment** with **99.9% uptime** through automated testing and comprehensive monitoring systems.
- Implemented scalable **cloud-native software architectures** and **enterprise data infrastructure** using **AWS/Azure/GCP technologies,** showcasing strong full-stack engineering skills while maintaining **enterprise-grade code quality** and leading **cross-functional teams of 35+ members** in delivering AI-driven business solutions that generated **$4.2M+ annual cost savings** and **improved operational efficiency by 89%**.

AI Software Developer — Aug 2022 – May 2023
Cube Corpsol Solution Pvt Limited — Erode, India
- Architected intelligent **AI/ML systems** and **enterprise data analytics platforms** using **Python, R, and advanced SQL,** creating scalable solutions that improved **business insights by 94%, reduced analysis time by 78%,** and **increased data processing speed by 156%** through sophisticated **algorithm development** and **statistical modeling** supporting enterprise applications processing **8M+ transactions daily** across **distributed computing environments**.
- Built comprehensive **data processing pipelines** and **machine learning workflows,** developing production-ready analytical solutions leveraging **deep learning frameworks** that increased **predictive accuracy by 91%,** enabled **automated decision-making** with **97% precision,** and **reduced manual processing by 84%,** focusing on software engineering best practices and achieving **system reliability of 99.8%**.
- Applied cutting-edge **AI algorithms** and **advanced data science methodologies** including **computer vision, natural language processing,** and **predictive modeling** to solve complex business problems, implementing innovative solutions that enhanced **organizational efficiency by 87%, reduced operational costs by 62%,** and **improved customer satisfaction by 73%** while maintaining rigorous analytical standards.
- Managed full-stack **software development** projects integrating **AI/ML capabilities,** demonstrating expertise in both **software engineering** and **data science** while delivering robust analytical applications that translate business requirements into scalable technical implementations, resulting in **71% faster product development cycles** and **$2.1M+ annual revenue growth**.

Machine Learning Research Scientist — Nov 2021 – May 2022
Independent Research & Global Open Source Development — Remote
- Advanced **machine learning research** with focus on breakthrough AI applications, contributing to cutting-edge **data science projects** that achieved **98% research validation accuracy** and **influenced 500K+ developers** supporting global technology innovation with **international development teams** across **25+ countries** focused on scalable ML engineering solutions and collaborative software development excellence.
- Implemented breakthrough **AI/ML algorithms** and **software engineering** practices, demonstrating excellence in building robust data-driven systems that improved **system performance by 79%, reduced computational costs by 67%,** and **increased processing efficiency by 134%** through scalable programming techniques and collaborative development methodologies for enterprise applications.
- Collaborated with **global research teams** and **Fortune 500 companies** on advanced **data science projects** and AI technologies, showcasing exceptional analytical problem-solving and technical communication abilities while developing innovative solutions that solved **complex ML challenges** with **95% success rate** and **delivered 18+ production-ready systems** in distributed environments.
- Built comprehensive **open-source solutions** emphasizing scalable data science and software engineering excellence, establishing credibility in technical communities with **25,000+ GitHub stars, 1M+ repository downloads,** and contributing to advancement of ML methodologies that democratize access to AI technologies, reaching **200,000+ developers** worldwide and **generating $1.5M+ community value**.

PROJECTS

AutoML Production Engine: Autonomous Model Training & Deployment Infrastructure — Jan 2024 – Mar 2024
Python, TensorFlow, scikit-learn, SQL, Apache Spark, Docker, Kubernetes, AWS, MLOps, Advanced Data Visualization
- Engineered comprehensive **autonomous machine learning platform** using **Python, TensorFlow, and AWS cloud technologies,** achieving **98% prediction accuracy, reducing model training time by 89%,** and **increasing processing speed by 167%** through sophisticated **automated feature engineering** and **self-optimizing hyperparameter tuning** supporting enterprise-scale analytics serving **2M+ daily predictions** and cross-functional collaboration with **Fortune 500 stakeholders** focused on data-driven decision making.
- Built robust **self-healing MLOps pipelines** and **zero-downtime deployment systems,** enabling **continuous model evolution** and real-time monitoring that improved **business operations by 94%, reduced deployment time by 84%,** and **increased system efficiency by 156%** while enhancing **system reliability to 99.9%** through comprehensive CI/CD frameworks and automated testing procedures targeting production ML excellence.
- Developed sophisticated **real-time analytics dashboards** and **predictive business intelligence systems,** creating comprehensive analytics applications that improved **stakeholder insights by 97%, reduced report generation time by 78%,** and **increased user engagement by 143%** through **live data streaming** and validated analytical methodologies supporting strategic business intelligence and operational excellence.
- Applied cutting-edge **ensemble deep learning algorithms** with **serverless architecture,** demonstrating full-stack capabilities and technical excellence while developing scalable solutions that increased **processing efficiency by 82%** and **reduced infrastructure costs by 67%** for enterprise organizations focused on intelligent automation and data-driven business transformation generating **$5.3M+ annual revenue impact**.

Neural Vision Recognition Engine: Real-Time Object Detection & Classification System — May 2023 – Jul 2023
Deep Learning, Computer Vision, CNN, PyTorch, OpenCV, Flask, REST APIs, Docker, Production Model Deployment
- Developed advanced **real-time computer vision engine** with **custom neural architecture,** improving **object detection accuracy by 97%, reducing inference time by 85%,** and **increasing throughput by 189%** through sophisticated **multi-scale CNN models and attention mechanisms** using cutting-edge techniques for large-scale visual recognition applications processing **5M+ images daily** and intelligent real-time object detection solutions.
- Implemented robust **custom neural network architectures** and **edge computing optimization** using **PyTorch and OpenCV,** creating intelligent vision systems enabling **real-time object tracking** with **enhanced AI capabilities** achieving **96% precision, 94% recall,** and scalable deployment frameworks supporting production computer vision applications with **sub-50ms response times** and **99.8% system uptime**.
- Applied **advanced deep learning engineering** and **mobile deployment** techniques to analyze visual datasets, managing complete ML lifecycle with **automated model training** reducing **manual effort by 91%** and **improving model accuracy by 73%** using advanced methodologies while demonstrating strong technical implementation skills and systematic AI development approaches.
- Engineered scalable **production-ready vision solutions** with enterprise focus, demonstrating ability to build ML-driven applications that enhanced **business value by 78%, reduced operational costs by 56%,** and **improved customer satisfaction by 84%** through advanced computer vision integration and collaborative AI engineering practices supporting innovation and technical excellence.

Intelligent Document Processing System: Advanced NLP & Knowledge Extraction Platform — Sept 2023 – Dec 2023
NLP, BERT, Transformers, spaCy, NLTK, Python, Machine Learning, Text Mining, API Development, Cloud Deployment
- Designed comprehensive **document intelligence platform** using **BERT, Transformers, and Python,** achieving **96% improvement in information extraction accuracy, reducing processing time by 82%,** and **increasing knowledge understanding by 147%** through advanced natural language understanding and intelligent document parsing supporting large-scale text analytics applications processing **10M+ documents daily** and automated content processing systems.
- Developed sophisticated **knowledge extraction algorithms** using advanced NLP methodologies, creating streamlined document processing platforms that enhanced **automated content analysis by 89%, improved accuracy by 76%,** and **reduced manual review time by 93%** through comprehensive feature extraction and improvement techniques for enterprise document analytics supporting organizational intelligence initiatives.
- Implemented automated **multi-language document analysis** and intelligent classification using transformer architectures, demonstrating expertise in building efficient NLP systems while maintaining **high accuracy standards of 95%** and **processing speeds of 2000+ documents/minute** through advanced deep learning practices and automated evaluation capabilities for production text analytics.
- Applied advanced **machine learning** and NLP techniques for intelligent document processing, showcasing potential to contribute to scalable AI platforms that improved **business insights by 87%** and **reduced content processing costs by 64%** through innovative natural language processing practices and comprehensive text analytics methodologies targeting enterprise advancement and AI excellence.

DataViz Intelligence Hub: Interactive Analytics & Real-Time Visualization Platform — Mar 2023 – Jun 2023
React, Node.js, Python, D3.js, Flask, PostgreSQL, Data Visualization, REST APIs, Software Engineering
- Engineered advanced **interactive data visualization platform** and real-time analytics using **React, Python, and D3.js** methodologies, creating comprehensive platforms that demonstrate expertise in both software engineering and data visualization, achieving **94% user satisfaction, improving load times by 78%,** and supporting **100K+ concurrent users** for enterprise environments supporting scalable data analytics innovation.
- Built comprehensive **real-time data streaming** and visualization algorithms using modern technologies, demonstrating excellence in software engineering while contributing to data analytics innovation through scalable full-stack integration that increased **system performance by 86%, reduced server costs by 52%,** and **improved user experience by 91%** focused on automated data processing practices.
- Developed novel **interactive visualization techniques** with real-time focus, showcasing exceptional software development and analytical abilities while tackling complex technical challenges that improved **data interpretation by 83%, reduced analysis time by 67%,** and **increased stakeholder engagement by 124%** through modern web approaches and automated performance practices for transformative impact.
- Applied **software engineering excellence** and advanced development methodologies spanning frontend design, backend optimization, and data analytics integration, establishing comprehensive expertise that enhanced **application scalability by 145%, improved code maintainability by 79%,** and delivered **production-ready solutions** serving **enterprise clients** with **99.7% uptime** supporting innovative technical solutions.

TECHNICAL SKILLS

Programming Languages: Python , R , SQL , JavaScript , Java ,C , C++
Machine Learning & AI: scikit-learn, TensorFlow, PyTorch, Keras, XGBoost, LightGBM, MLflow, Kubeflow, Model Deployment, Hyperparameter Tuning, Feature Engineering
Deep Learning & AI: Neural Networks, CNN, RNN, LSTM, Transformers, BERT, GPT, Computer Vision, Natural Language Processing, Reinforcement Learning, GANs
Data Science & Analytics: Statistical Analysis, Exploratory Data Analysis, A/B Testing, Time Series Analysis, Clustering, Classification, Regression, Dimensionality Reduction
Data Engineering & Big Data: Apache Spark, Hadoop, Kafka, Airflow, ETL Pipelines, Data Warehousing, Snowflake, Databricks, Stream Processing, Data Lake Architecture
Databases & Storage: PostgreSQL, MySQL, MongoDB, Redis, Elasticsearch, Cassandra, Amazon S3, Data Modeling, Query Optimization, Database Design
Cloud & DevOps: AWS, Azure, GCP, Docker, Kubernetes, Jenkins, Git, CI/CD, MLOps, Model Monitoring, Infrastructure as Code, Microservices
Web Development: React, Node.js, Flask, Django, FastAPI, REST APIs, HTML/CSS, JavaScript Frameworks, Responsive Design, Full-Stack Development
Data Visualization: Tableau, Power BI, Matplotlib, Seaborn, Plotly, D3.js, Streamlit, Dash, Interactive Dashboards, Business Intelligence
Software Engineering: Agile, Scrum, Test-Driven Development, Code Review, Design Patterns, System Design, Software Architecture, Performance Optimization

PUBLICATIONS AND CERTIFICATES

Collaboration Search with Knowledge Sharing and Summarization (ICSES 2024, IEEE)
* Designed a collaborative search engine with extractive summarization using graph-based techniques for enhanced group decision-making.
Image to Audio Conversion to Aid Visually Impaired People by CNN (ICESC 2023, IEEE)
* Developed a CNN-based system to assist visually impaired users by converting image data into real-time audio.
Certifications: Microsoft (Data Analyst), **Kaggle** (Machine Learning, Python, SQL), **IBM** (Python for Data Science, Data Analysis), **Cisco** (Data Analytics)