Niveditha S

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SUMMARY

In the dynamic world of biotechnology, I, Niveditha S, am an enthusiastic explorer, currently advancing through the concluding phase of my academic voyage at Rajalakshmi Engineering College. While my bachelor's journey has been rooted in biotechnology, I aim to integrate my passion for data science and computer science into solving complex challenges in both domains.

EDUCATION

- **Micro-Credit Program** [June 2024 – Present]
  Computer Science
  IIT Guwahati, Assam, India.
- **Bachelor of Technology** [August 2021 – Present]
  Biotechnology
  Rajalakshmi Engineering College, Tamil Nadu, India.
  Cumulative GPA: 8.12/10
- **Higher Secondary Education (10+2)** [May 2019]
  SBOA School & Junior College, Tamil Nadu, India.
- **Secondary School Education (10)** [May 2017]
  SBOA School & Junior College, Tamil Nadu, India.
  GPA: 9.2/10

SKILLS

- **Operating Systems & Software**: Windows, Linux, macOS, Microsoft Excel, Word, PowerPoint.
- **Machine Learning & Artificial Intelligence:** Machine learning algorithms, neural networks, NLP, reinforcement learning, AI-driven applications, model building, data analysis, predictive analytics.
- **Programming & Data Science**: Python, NumPy, Pandas, SQL, Matplotlib, C/C++, bioinformatics, big data analytics, cloud computing, data engineering, data cleaning, data preparation, data visualization.
- **Biotechnology & Bioinformatics:** Genomic analysis, sequence alignment, biofilm research, bioinformatics pipelines, computational biology.
- **Research, Publications & Intellectual Property**: IEEE publications, book chapters, patents, technical writing, peer review, collaborative research projects.
- **Technical Skills:** Teamwork, Time Management, Problem-Solving, Adaptability, Communication Skills
- **Research Skills:** Scientific Writing, Literature Review, Experimental Design, Data Interpretation and Analysis, Presentation Skills

RESEARCH PROJECTS

- **Accurate Brain Tumor Segmentation and Detection using Multi-Task Learning with GlobalNet and FusionNet**
- **Neural Image Caption Generation with Visual Attention: Enabling Image Accessibility for the Visually Impaired**
- **Kernelized Deep Networks for Speech Signal Segmentation Using Clustering and Artificial Intelligence in Neural Networks**
- **Cluster-based grid computing on wireless network data transmission with routing analysis protocol and deep learning**
- **Implementation of Machine Learning in VLSI Integrated Circuit Design**
- **Design and Development of Smart Wearable-Technology Enhanced Learning for Specially Abled students**
- **An Advanced Fully Residual Convolutional Neural Network for Segmentation and Classification of Brain Tumors across Diverse Medical Image Modalities**
- **Predicting Malware Classification and Family using Machine Learning: A Cuckoo Environment Approach with Automated Feature Selection**
- **Memory-Augmented Deep Recurrent Neural Networks for Long-Term Dependency Learning in Natural Language Processing**
- **NLP Based Al-Driven Resume Screening Solution for Efficient Candidate Selection**

INTERNSHIP EXPERIENCE

- **Jr. Research Assistant** at *All Mind AI (ZRAE Global).* [June 2020 – January 2021]
  - Led high-impact AI research in Reinforcement Learning and Text Data Mining, contributing to top-tier journal publications through innovative speech signal segmentation models using Kernelized Deep Networks.
- **Machine Learning Engineer** at *iNeuron Intelligence Pvt Ltd.* [May 2022 - September 2022]
  - Developed and deployed AutoML-driven machine learning models using PyCaret and Flask for real-time, scalable predictive systems in a cloud environment.
- **Bioinformatics Intern** at *KaaShiv InfoTech Pvt Ltd.* [January 2023]
  - Developed automated pipelines for DNA sequence alignment and gene variant detection, applying computational biology techniques to drive insights from large-scale genomic data.
- **Microbial Biofilms Intern** at *Centre of Excellence in Biofilms.* [June 2023 – July 2023]
  - Engineered an EPS-based nanocomposite to inhibit bacterial adhesion on dental surfaces, utilizing typodont model and advanced techniques like UV-VIS spectrophotometry and SEM for biofilm analysis and antimicrobial efficacy testing.
- **Machine Learning and NLP Intern** at *Crayon Data Pvt Ltd.* [August 2023 - November 2023]
  - Built and optimized Natural Language Processing models to enhance personalized recommendation engines, improving enterprise customer engagement with advanced feature engineering and transformer algorithms.

- **Python Programming Intern** at *KaaShiv InfoTech Pvt Ltd.* [January 2024 - February 2024]
  - Enhanced the efficiency of deep learning models by implementing asynchronous programming with Python's asyncio, cutting down execution time for complex neural network tasks by 30%.
- **Machine Learning and Neural Network Intern** at *Techgyan Technologies - IIT Bombay.* [June 2024 – July 2024]
  - Optimized deep learning architectures through hyperparameter tuning, significantly improving model performance in image classification and text analysis tasks.
- **Junior AI Engineer** at *AI Quantalytics.* [May 2024 – present]
  - Developed a Fully Residual Convolutional Neural Network for brain tumor segmentation, integrating MDRNNs to enhance NLP model performance for malware classification and family prediction

PUBLICATIONS

1. S. Shreyanth, S. Niveditha and V. Kathiroli, Accurate Brain Tumor Segmentation and Detection using Multi-Task Learning with GlobalNet and FusionNet, 2023 IEEE 12th International Conference on Communication Systems and Network Technologies (CSNT), Bhopal, India, 2023, pp. 478-485. https://doi.org/10.1109/CSNT57126.2023.10134722
2. S. Niveditha, S. Shreyanth, V. Kathiroli, P. Agarwal and S. Ram Abishek, Kernelized Deep Networks for Speech Signal Segmentation Using Clustering and Artificial Intelligence in Neural Networks, 2023 IEEE 12th International Conference on Communication Systems and Network Technologies (CSNT), Bhopal, India, 2023, pp. 667-674. https://doi.org/10.1109/CSNT57126.2023.10134609
3. Shreyanth S. and Niveditha S. (2023); CLUSTER-BASED GRID COMPUTING ON WIRELESS NETWORK DATA TRANSMISSION WITH ROUTING ANALYSIS PROTOCOL AND DEEP LEARNING Int. J. of Adv. Res. 11 (Jun). 517-534. http://dx.doi.org/10.21474/IJAR01/17096
4. Priyanka Agarwal, Niveditha S, Shreyanth S, Sarveshwaran R, Rajesh P K, Neural Image Caption Generation with Visual Attention : Enabling Image Accessibility for the Visually Impaired, International Journal of Scientific Research in Science, Engineering and Technology(IJSRSET), Print ISSN : 2395-1990, Online ISSN : 2394-4099, Volume 10, Issue 3, pp.562-575, May-June-2023. https://doi.org/10.32628/IJSRSET23103151
5. Shreyanth, S., Harshitha, D.S. & Niveditha, S. Implementation of Machine Learning in VLSI Integrated Circuit Design. SN COMPUT. SCI. 4, 137 (2023). https://doi.org/10.1007/s42979-022-01580-5
6. S., Shreyanth & Suwetha, P. & Kathiroli, V. & Niveditha, S. & Jayaprakash, Harshitha. (2023). Fintech, Crisis, and Marketing: How Technology-Driven Financial Firms Adapt Their Approach to Retain Customers. 10.2991/978-94-6463-162-3_28.
7. Sethuraman, Bhalashri & Niveditha, S. (2023). Cerebrovascular Accident Prognosis using Supervised Machine Learning Algorithms. 1-8. 10.1109/WCONF58270.2023.10235122.
8. Niveditha S, Prianka RR, Sathya K, Shreyanth S, Nandhagopal Subramani, Balakrishnan Deivasigamani and Karthikeyan S, Predicting Malware Classification and Family using Machine Learning: A Cuckoo Environment Approach with Automated Feature Selection, International Conference on Machine Learning and Data Engineering (ICMLDE), 2023 (In Production)
9. Shreyanth S, Karthikeyan S, Prianka RR and Niveditha S, Memory-Augmented Deep Recurrent Neural Networks for Long-Term Dependency Learning in Natural Language Processing, Advanced Intelligent Systems, 2023 (in review)

10. Karthikeyan S, Shreyanth S, Niveditha S, Naveen S, Santhi G B and Gopirajan PV, An Advanced Fully Residual Convolutional Neural Network for Segmentation and Classification of Brain Tumors Across Diverse Medical Image Modalities, Computers in Biology and Medicine, 2023 (in review)
11. Sarveshwaran R, Karthikeyan S, Meenalosini V. Cruz, Shreyanth S, Niveditha S and PK Rajesh, NLP Based Al-Driven Resume Screening Solution for Efficient Candidate Selection, 9th International Congress on Information and Communication Technology (ICICT), 2023 (In Production)
12. Shreyanth S, Harshitha D S, Priyanka Agarwal, Kathiroli V and Niveditha S, Design and Development of Smart Wearable-Technology Enhanced Learning for Specially Abled Students, 2nd International Conference on Best Innovative Teaching Strategies (ICON-BITS), 2023 (In Production)

Book Chapter

- Advancing Digital Forensic Intelligence: Leveraging EdgeAl Techniques for Real-time Threat Detection and Privacy Protection Niveditha S, Shreyanth S, Delshi Howsalya Devi R, Sarveshwaran R and Rajesh P K Book titled Big Data & Edge Intelligence for Enhanced Cyber Defence: Principles and Research' - CRC Press, 2023 (in Production)
- Brain Computer Interfaces for elderly and disabled person Niveditha S, Shobana D, Visudha S, and Yazhini PM Book titled Machine Learning Models and Architectures for Biomedical Signal Processing' - Elsevier, 2023 (in Production)
- Bacterial Exopolysaccharides-Based Nanomaterials for Targeting Biofilm-Associated Infections Anand Ravichandran, D. Shobana, S. Visudha, Yazhini, S. Niveditha, and P. Saravanan Book titled Cutting-Edge Applications of Nanomaterials in Biomedical Sciences – IGI Global, 2024
- Functionalisation Strategies of Silver Nanoparticles P Rajasekar, Niveditha S, Visudha S, Yazhini PM, and Shobana D – Springer Nature, 2023 (in Production)

Intellectual Property (Patent & Copyright)

- Shreyanth Srikanth , Renangi Sandeep, Dr. Jayachandran Shanmuga Sundaram, Rajesh Perinkulam Krishnan, Niveditha Srikanth, Manpreet Singh, Dr. Ashok Kumar Katta, "Artificial Intelligence based nano robotic arm to operate endoscope motion", UK Design Patent, Design number: UK 6291782.
- Shreyanth S and Niveditha S, "Enhanced Tool for Efficient Video Organizer and Splitter with Multithreading", ROC Number: SW-16203/2023.
- Niveditha S, " Cerebrovascular Accident Prognosis using improved advanced Machine Learning Algorithm.", ROC Number: SW-16851/2023.

Academic Project

- **Cerebrovascular Accident Prognosis using Supervised Machine Learning Algorithms**
- **A Multi-functional Aqueous Phytochemical Formulation for Minimalist Skincare and Urticaria Management**
- **Bio-Responsive Adhesive Dressing System with Controlled Cracking for Enhanced Wound Healing and pH Monitoring**
- **Innovative Biodegradable Spray Container with Microbe-Resistant Coating and Dual Nozzle**

Technology

- **FluoroCNN: CNN based Fluorescent Neuronal Cell Analysis and Tracking**

AWARDS

- **DISS FEST 2024 (First prize in the Oral Presentation, April 2024)** issued by *Department of Pharmaceutical Technology, UCE, BIT Campus, Anna University, Tiruchirappalli*
  - Recognized for outstanding presentation and Product exhibition for "A Multi-functional Aqueous Phytochemical Formulation for Minimalist Skincare and Urticaria Management".
- **ENIGMA 2023 (Second prize in the Poster Competition, October 2023)** issued by *Sri Manakula Vinayagar Engineering College, Madagadipet, Puducherry*
  - Recognized for outstanding presentation for " Optimization of the Ex-vivo Typodont Model for dental biofilm associated infections".

CERTIFICATIONS

- C/C++ Course from CADD Centre.
- AI For Everyone badge from AI Singapore.
- PowerBI Workshop from OfficeMaster.
- Mini-Fellowship Program on Molecular Imaging Techniques from Stanford School for Medicine.
- Blockchain Workshop at Kurukshetra 2022.
- Computational Research Techniques and methods in Life sciences workshop from Bam Bio R&D Centre.

SOCIAL VOLUNTEERING EXPERIENCE

- Volunteer and Learning Circle Leader at U&I since 2020.
- Member of Youth Red Cross (YRC) Club at Rajalakshmi Engineering College since 2022.
- Member of Organizing Committee for National Conference on ‘Innovations in Management of Lifestyle Diseases’ (EMBIOS 2024).
- Content Writer at Scioverleaf since 2024.

COMPETITONS & HACKATHONS

- Top 10 performer at Databricks Sparkwars hackathon
- Top 20 teams at Shell.ai hackathon
- Semi-finalist in EY Open Data Science Challenge 2024
- Participant at Walmart Sparkathon
- Participated in Symposium Vitalizz'23 at Rajalakshmi Engineering College for Idea Presentation

- Participant at Kurukshetra 2022

Panel Membership & Roles

- Member of IEEE (Institute of Electrical and Electronics Engineers) - #98761426
- Editorial Board Member for PriMera Scientific Engineering Journal (ISSN: 2834-2550).
- Reviewer for Medicon Engineering Themes Journal (ISSN: 2834-7218).
- Reviewed for 10+ Conferences which are IEEE/Springer-organized conferences indexed in Scopus – EASCT 2023, AIKIIE 2023, ICAIA 2023, ICDSIS 2024.

Interests

- Artificial Intelligence (AI), Machine Learning, Deep Learning, NLP,
- Big Data Analytics, Data Engineering and Data Science
- Cloud Computing, Networking and Distributed Systems
- Software Engineering and Architectural Design