Shree Patnaik

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EDUCATION

Master of Science *(Thesis in Deep Learning)* | **Purdue School of Engineering and Technology** **Indianapolis, Indiana**
Department of Electrical and Computer Engineering *Aug 2022 – May 2024*

- **Relevant Coursework:** *Efficient A.I, Neural networks, Computational Models & Methods, Wireless and Multimedia Computing*
- **Club/Activities:** Member of Women in Technology.

Bachelor of Technology| National Institute of Science and Technology (NIST) **Odisha, India**
Department of Electronics and Communication Engineering *Aug 2017 – May 2021*

- **CGPA:** 8.73/10, **Relevant Coursework:** *Data Structures, Operating Systems, C, C++, Java, Microprocessors and Microcontrollers*
- **Club/Activities:** President of Astronomy Club, Member of Nanotechnology lab.

SKILLS

Programming languages*:* Python, C++, Oracle 11g, PLSQL, MYSQL, Java, HTML, MATLAB, JavaScript, CSS, C#
Libraries*:* NumPy, Pandas, Matplotlib, Scikit-learn, OpenCV, Keras, TensorFlow, PyTorch.
Technologies/ Platforms: Big Query, Google Cloud, Excel, Cadence, Verilog, PSPICE, NI LabView, Xilinx, Arduino, and Node MCU
Soft Skills: Leader, quick learner, analytical thinking, team player.

WORK EXPERIENCES

Research Assistant| Ubiquitous Embedded Intelligence (UbiEi) Lab, Purdue University| Indianapolis **Aug 2022 – Present**

- **Distributed federal system**: Studied and implemented the effectiveness of Artificial Intelligence in Federal Learning.
- **Supervised learning model:** Developed MLP and CNN to evaluate the local client dataset and fine-tuned it to increase efficiency.
- **Artificial neural networks:** Studied and implemented a neural network design which solves trigonometric equations.
- **Supervised learning:** Optimized the network hyperparameters to regress each trigonometric term parameter using supervisedlearning.
- **Unsupervised learning:** Implemented **KNN clustering** to classify the data from one dataset in different methods.
- **Visualization:** Evaluated the results using **confusion matrix, ROC curves** and attained an accuracy of 83.2%

Programmer Analyst | **Cognizant Technology Solutions, Hyderabad, India** **Apr 2022 – Jun 2022**

- Worked on a **health care product consultant** team on **facets platform** to store and manage insurance data.
- Utilized **SQL Server Integration Services** (SSIS) to integrate the enterprise data and transform it into the database.

Research Assistant | **Nanoelectronics and Device Fabrication (NEDF) lab, NIST, Odisha, India** **Aug 2018 – May 2021**

- **Nanoelectronics technology:** experimented fabrication process of thin film nanoelectronics to understand the nanoelectronics.
- **Publication:** *"**Design and Development of a Device to Detect Lung Cancer using Human Breath**" (Accepted- Taylor&Francis CRC Press)*
- **Projects:** Detection of lung cancer from exhaled human breath, by using breath as a biomarker, which resulted in publication.
- **Thin film solar cell:** Designed a CIGS Solar Cells to optimizing the buffer layer using **SCAPS-1D.** Improvement of 28.57% in efficiency.

TECHNICAL PROJECTS

IoT Based Smart Garden| Internet of Things (IoT): FRDM, thread network **Oct 2022- Dec 2022**

- **Automation:** Collaborated with a team on implementing automated gardens using a thread network**.**
- Contributed towards network designing and software interfacing the design hardware using FRDM **k64f** board and sensors.

Winner | Smart India Hackathon, Karnataka, India **Jun 2020- Jan 2021**

- **Non-invasive Glucometer using Arduino and VOC sensors:** Formulated the conversion of Volatile Organic Compound (VOC) gasses human breath to calculate blood glucose levels and contributed towards designing the hardware implementation.
- **Survey:** Conducted consumer research on 300 participants to determine the shortcomings of traditional glucose monitoringsystems.
- **Conclusion:** breath analysis is an innovative non-invasive biomarker that is a user-friendly alternative to measure glucose levels

CERTIFICATIONS

Google Data Analytics | Professional Certificate **Dec 2022—Present**

- Through this course, I learned how to collect, clean, and analyze data using tools such as SQL, spreadsheets, and Tableau. I am also gaining knowledge on data visualization techniques and how to interpret data to make informed business decisions.
- Skills: Spreadsheet, Data Cleansing, Data Analysis Data, Visualization (DataViz), SQL, Questioning, Decision-Making, Problem Solving, Metadata, Data Collection, Data Ethics, Sample Size Determination

Oracle Database | Certification course: Oracle 11g, SQL **May 2018—Jun 2018**

- Completed a 200-hour training program on learning SQL using Oracle 11g covering joins, relational SQL, conditional filters,subqueries, and indexes.
- Developed a project on queries to retrieve data from the database, implement in tables, and manipulate them using relational SQL.

EXTRACURRICULAS

Member of Women in Technology: Attended various conferences and discussions with professionals in Technology.

Teaching Assistant: Helped students in understanding the Signals and Systems, conducted various doubt clearing sessions and graded paper

President of Astronomy Club: Our club organized various educational events on Astronomy. Being the President, I've taken major role in giving assignments to fellow club members and planning budgets.

MAJOR AWARDS

- **Merit-Based Scholarship** from Purdue University of $8000 per annum.
- **Winner of Smart India Hackathon (SIH)** 2020, under the problem statement Non-Invasive Glucometer by Department of Science and Technology, Government of India, awarded $1200 (Mar 2021)
- **Discovered 17 preliminary asteroid** discoveries using Astrometrica Software in International Asteroid Search Campaign (IASC), conducted by **PANSTAR** and **NASA** (Aug 2019- Sept 2019).
- Selected as the NIST representative from over 1000 students for thein National Student's Space Challenge held at Indian Institute of Technology Kharagpur (IIT, KGP), developed and presented a water rocket working towards experimenting different fuel sources of the rocket. (2018).
- Winner of innovative idea delegate Award in Model World Science Forum, representing Cambridge University (2017)
- Winner of Electronics Hobby Club workshop on Arduino based sensors (2017).