Shagundeep Singh

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EDUCATION

- **Florida Atlantic University** Aug 2022 - May 2024
  MS in Artificial Intelligence GPA: 4.0/4.0

- **National Institute of Technology, Jalandhar** Aug 2016 - Jun 2020
  BS in Mechanical Engineering GPA: 3.0/4.0

RELEVANT COURSEWORK

Machine Learning, Essentials of SQL, Data Structures & Algorithm Analysis with Python, Intro to Data Science, Computational Foundations of AI, Object Oriented Programming, Artificial Intelligence, Deep Learning, Fundamentals of Computer Programming, Reinforcement Learning

TECHNICAL SKILLS

Programming Languages: Python, SQL, R, MATLAB, HTML, CSS
Frameworks / Technologies: TensorFlow, scikit-learn, Scalecast, OpenCV, Pandas, NumPy, Matplotlib, SQLite, Azure Databricks, Seaborn, Tableau, Solidworks, Ansys, Power BI, Firebase, FirebaseML,

PROJECTS EXPERIENCE

- Biomass Measurement and Prediction using Time Series Models
  - Collected data using a custom sensor and created multiple time series forecasting models to predict algae growth and updated data on Firebase
  - Achieved **91% validation accuracy with a ConvLSTM** model **TFlite models on FirebaseML**
  - Utilized LSTM neural networks, ARIMA, Prophet, and Moving Average Forecasting, Scalecast, TensorFlow, Pandas, Matplotlib, data cleaning, data analysis techniques, and machine learning algorithms, Python

- Excavator Market Share Growth | JCB
  - Managed **9 dealerships across 9 districts** to align the dealership to company's policies and grow excavator market share
  - Introduced data analytics technique in the sales division using SQL, Pandas, and Tableau
  - Increased market share **by 2.5% in 6 months** period
  - Utilized SQL, Tableau, MS Office (PowerPoint, Excel), Pandas, NumPy, and strong problem-solving and communication skills, Data visualization and Dashboard creation

- Multi-Ophthalmic Disease Detection using CNN-based Models
  - Developed a CNN-based model to detect multiple ophthalmic diseases with 98% overall accuracy
  - Compared existing CNN architectures and utilized TensorFlow, Matplotlib, and NumPy
  - Collaborated with an ophthalmology clinic and utilized software development skills, data processing, machine learning algorithms, data analysis techniques, pandas, Python

- AI-based Tool for Fast-paced Diagnosis and Treatment of Visual Field Defects | NSF I-Corps & FAU Wave
  - Proposed and developed a tool using AI and virtual reality for faster diagnosis and treatment of visual field defects
  - Utilized computer vision, research experience, automation, and creative thinking
  - Contributed to professional business modeling, business thesis development, and presentation skills

- Simulator for Enhancement of TOF LiDAR Data using Machine Learning
    - Worked on a Time of Flight (TOF) LiDAR to collect 3D point-cloud data of fish larvae and created a simulator using machine learning to enhance data
    - Utilized Helios2+ TOF, Lucid Arena SDK, CNN, OpenCV, NumPy, Pandas
    - Contributed to research and development, product engineering, manufacturing, prototyping, electronics, data processing

EXPERIENCE

Graduate Research Assistant, Harbor Branch Oceanographic Institute, FAU Oct 2022 – Present

- Develop and implement machine learning models for Aquaculture projects using neural networks, regression models, and forecasting models
- Assist in manufacturing prototypes for structural solutions

Business Account Manager and Data Analyst, JCB Oct 2020 - Dec 2021

- Managed 9 dealerships, aligned them with company policies, and increased excavator market share by 2.5%.
- Created sales and marketing strategies, provided technical training, and collaborated with forecasting team to analyze data and provide accurate sales predictions.
- Modernized sales division through data analytics techniques and technology