

# Jyothsna Kaamala

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## Education

### New Jersey Institute of Technology

Sep 2022 - May 2024

Master's in Data Science

Newark, NJ

- **GPA:** 3.65 / 4.0
- **Coursework:** Data Analytics with R Programming, Cloud Computing, Big Data, Machine Learning, Data Management System Design, Data Structures & Algorithms, Deep Learning, Data Visualization, Applied Statistics.

## Experience

### Uhnder Inc

May 2020 – Jun 2022

Software Quality Assurance Engineer

Chennai, India

- Collaborated with software experts to validate production software for Uhnder SOC's and Radar Systems, implementing system-level tests and ensuring functionality and performance of targeted use cases.
- Analyzed system requirements to generate test plans for various use cases, automating 70% of software development processes such as building, testing, and deploying using JENKINS/groovy scripts.
- Devised special-purpose hardware pipelines, enhancing system efficiency and throughput by 30%, and assuring high-quality software production for optimal operation of Uhnder SOC's and Radar Systems.

## Projects

### Predicting Water Potability Using Machine Learning *DS 675 Machine Learning*

- Conducted exploratory data analysis on over 3,200 water quality metrics using Pandas and Matplotlib in Python. Performed data cleaning and feature engineering to optimize a machine learning pipeline for water potability classification with Scikit-Learn, including custom transformer functions for handling outliers and normalization.
- Trained and optimized classification models such as SVM, KNN, Logistic Regression, AdaBoost, and Bagging Classifier, improving the weighted F1 score from 82% to 93% through hyperparameter tuning and cross-validation, effectively handling a 1.2GB dataset.

### Cafe Delight Website using AWS Cloud Services *CS 643 Cloud Computing*

- Developed a dynamic cafe website with a scalable and maintainable microservices architecture, utilizing RESTful APIs for seamless service communication.
- Implemented the project on AWS using EC2, API Gateway, Cognito, Lambda, RDS, IAM, SES, and S3, creating a robust and cost-effective cloud infrastructure.

### Visualizing Institutional Rankings using Tableau *DS 650 Data Visualization*

- Designed a comprehensive interactive dashboard with three views, showcasing university diversity, in-state student costs, and average SAT scores using scatter plots, bar charts, and interactive maps for clear and engaging data visualization, including the Shannon Diversity Index.
- Implemented advanced interactive features, including filters, highlighting, and drill-down capabilities, to facilitate dynamic exploration and comparison of university rankings and metrics, enhancing user experience and data insightfulness.

### Desks-R-Us: Online Office Furniture Store *CS 631 Data Management System Design*

- Designed a PostgreSQL database on AWS RDS for 100k daily product searches and 10k orders, reducing data redundancy by 25%. Built an inventory management API with Node.js and Express, reducing backend latency by 35% through indexing and query optimization.
- Deployed the Node.js application on AWS Elastic Beanstalk for automatic scaling, load balancing, and monitoring, achieving 99.95% service uptime since launch.

## Skills

**Programming Languages:** Python, R, SQL, Java.

**Cloud:** AWS (EC2, VPC, RDS, S3, Lambda, Elastic Beanstalk)

**Data Management:** NumPy, Pandas, Scikit-learn, Matplotlib, MySQL, PostgreSQL, Tableau, PowerBI, Jupyter