

# Vedasri Nakka

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## EDUCATION

Joint Masters in Computer Science GPA: 5.0/6.0  
University of Neuchatel, Bern, Fribourg - Switzerland Feb 2021 - Sep 2024

Bachelor's in Electronics Engineering 73.0/100.0  
BVRIT, Hyderabad, Jawaharlal Nehru Technological University - India July 2013 - July 2016

## PROFESSIONAL EXPERIENCE

Cyient Private Limited Aug 2016 - Aug 2019  
Role: Software Engineer Under: Shailesh Deshpande

- Engineered solutions to customize ServiceNow modules and expertly managed data loading through import sets. Integrated ServiceNow with external/internal tools, including JIRA and Netcool.

## TECHNICAL PROJECTS

Thesis: Contrastive Learning for Character Detection in Ancient Greek Papyri Feb 2024 - Sep 2024

- Evaluate the effectiveness of SimCLR for Greek letter recognition and compare its performance with traditional supervised models using cross-entropy and triplet loss functions, incorporating pretraining on a large dataset and fine-tuning on a smaller dataset. (You can find [Paper](#) and [Code](#) in the given link)
- Investigate the impact of various data augmentation strategies on SimCLR's performance and explore why traditional supervised models may outperform SimCLR in this specific letter recognition task.

Explainable AI - Human-Computer Interaction meets Artificial Intelligence Feb 2021 - Jun 2021

- Conducted a comprehensive study to interpret the decisions of CNNs for fine-grained CUB200 dataset against gradient-based adversarial attacks such as FGSM and PGD.
- Implemented adversarial attack experiments on three representative networks: Standard VGG16, Attention Pooling framework, and Prototypical Networks. Leveraged visualization techniques like CAM and its variants to interpret the reasons for the success of adversarial attacks.

Pattern Recognition Feb 2021 - May 2021

- Developed a k-NN algorithm from scratch to classify MNIST images. Utilized various distance metrics, including Euclidean and Manhattan, and compared their performance. and created K-means clustering model, evaluating its quality with metrics such as the C-Index and Dunn-Index.
- Trained a Multilayer Perceptron (MLP) with one hidden layer in PyTorch for MNIST image classification, performed hyperparameter tuning through grid search for hidden layer neurons, learning rate, and training iterations.

Machine Learning & Data Mining Sep 2022 - Dec 2022

- Implemented various machine learning algorithms—including Naive Bayes, k-NN, Decision Tree, and Simple Rules—on the Titanic dataset for comprehensive analysis.
- Utilized Python for text data extraction and manipulation, conducting statistical tests and applying the Naive Bayes algorithm to enhance data analysis.

Fuzzy sets Sep 2023 - Dec 2023

- Developed a prototype app using fuzzy theory to generate personalized travel destination ideas based on user preferences, enhancing the travel experience. Implemented a [travel recommendation](#) prototype.

## PUBLICATIONS

A life engineering perspective on algorithms, AI, social media, and quantitative metrics 2nd may 2024  
Informatik Spektrum Journal University of Fribourg

- As a team, we explored the intersection of life engineering, algorithms, AI, social media, and their impact on human life, through reviews of three influential books: Cathy O'Neil's *Weapons of Math Destruction*, Kate Crawford's *Atlas of AI*, Shoshana Zuboff's *The Age of Surveillance Capitalism*. You can find publication [here](#)

## SKILLS

**Languages:** Python (NumPy, Pandas, Matplotlib, Scikit-learn, matplotlib) java, javascript, C, R programming

**Softwares:** Visual Studio, Eclipse, LATEX, Git, Anaconda(Jupyter Notebook), Microsoft Office

**Soft Skills** Academic writing, Time Management, Team work, Problem-solving, Documentation, Logical thinking.