Vedasri Nakka

Contact details

Email: vedasri.g555@gmail.com
Phone: +49 1520 478 9707
Location: Munich, Germany

GitHub page:
vedasrinakka.github.io/

LinkedIn: linkedin.com/in/vedasri-nakka-8a7865b3/

Language: Learning German-A2
Work Permit: Available

Skills

Languages:
- Python (NumPy, Pandas, Matplotlib, Scikit-learn, Seaborn, TensorFlow, PyTorch, ray.tune, NLTK, spaCy)
- Java
- JavaScript
- C
- R

Tools & Technologies:
- Docker
- Git
- Anaconda (Jupyter Notebook)
- Google Colab
- Kaggle
- Visual Studio
- Eclipse
- LaTeX
- Microsoft Office

Soft Skills:
- Academic writing
- Time management
- Teamwork
- Problem-solving
- Documentation
- Logical thinking
- Engaging presentations

Education

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

Bachelor of Engineering in Electronics Engineering — GPA: 73.0/100.0
BVRIT, Jawaharlal Nehru Technological University - India — Jul 2013 - Jul 2016

Work Experience

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

- Designed customized solutions for ServiceNow modules and expertly managed data loading through import sets.
- Integrated ServiceNow with external and internal tools, including JIRA and Netcool.

Technical Projects

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

- Evaluated SimCLR for Greek letter recognition, comparing performance with traditional supervised models. Conducted experiments using pretraining and fine-tuning strategies. arXiv: https://arxiv.org/abs/2409.10156 & git: https://github.com/VedasriNakka
- Investigated the effects of different data augmentation strategies on SimCLR's performance and analyzed why traditional supervised models achieved better results in Greek letter recognition tasks.

Explainable AI - HCI meets Artificial Intelligence — Feb 2021 - Jun 2021

- Conducted a study to interpret CNN decisions on the CUB200 dataset against adversarial attacks (FGSM, PGD). Read scientific article in github.com/MS_seminars repo
- Implemented adversarial experiments on VGG16, Attention Pooling, and Prototypical Networks, using CAM techniques to explain attack success.

Pattern Recognition — Feb 2021 - May 2021

- Developed a k-NN algorithm for MNIST classification, comparing distance metrics. Created a K-means clustering model and evaluated with C-Index and Dunn-Index.
- Trained a Multilayer Perceptron (MLP) with one hidden layer in PyTorch for for image classification, performed hyperparameter tuning through grid search.

Machine Learning & Data Mining, Fuzzy sets — Sep 2022 - Dec 2023

- Applied machine learning algorithms (Naive Bayes, k-NN, Decision Tree, Simple rules) to the Titanic dataset for analysis. Conducted data extraction and manipulation in Python.
- Built a fuzzy theory-based travel recommendation app to enhance user experience by suggesting personalized destinations. See the travel recommendation prototype in git.

Fine-Tuning GPT-2 for Text Generation on Custom Dataset — from Sep 2024

- Currently working on a project to fine-tune a GPT-2 model using Hugging Face Transformers for custom text generation. Managed data pre-processing, fine-tuning, and evaluation on a custom dataset while implementing dynamic padding, gradient clipping, and custom logging for enhanced training and monitoring.

Publications

A life engineering perspective on algorithms, AI, social media, and quantitative metrics — UniFr May 2024
Informatik Spektrum Journal Georgiana Bigea, Maria Mumtaz, Edy Portmann, Jennifer Swaminathan & *Nakka Vedasri*

- 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*. Check publication: https://link.springer.com/article/10.1007/s00287-024-01569-9