# Anuraag Velamati

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## Education

**University of California, Davis** — *Davis, USA*

Master of Science in Computer Science; CGPA: 4.0 — *Sept 2022 - Present*

- Coursework: Machine Learning, Distributed Database Systems, Software Engineering

**Vellore Institute of Technology, Vellore** — *Vellore, India*

Bachelor of Technology - Computer Science; CGPA: 9.23 — *July 2018 - July 2022*

- Coursework: Artificial intelligence, Database Management Systems, Data Visualization, Statistics, Data Structures and Algorithms, web mining

## Work Experience

**Innomatics Research labs** — *Hyderabad, India*

Data Scientist Intern — *April 2021 - June 2021*

- Performed Exploratory Data Analysis and built a predictive model, analyzing customer food preferences, reducing food wastage by 30%.
- Engineered a food recommendation system, providing meaningful recommendations to the guest, reducing food ordering time by 14%.
- Applied multiple machine learning techniques to build better pricing models, increasing the revenue by 19%.

**Vsualthree60** — *Bengaluru, India*

Computer Vision Intern — *February 2021 - March 2021*

- Designed an in-house algorithm to predict an individual's gender, age and emotional state by analysing facial data.
- Leveraged Amazon EC2 GPU instances to train a deep learning model on 4 million images.
- Automated a pipeline using apache airflow, to store and feed the data being generated to the model.

## Projects

**High-Resolution image inpainting using GANs**

Technologies: Python, Flask, Node js, React js, AWS, Tensorflow, Docker, Javascript, HTML/CSS.

- Enhanced the generator and discriminator network to improve the contextual reasoning and texture synthesis of the images.
- Developed a unique optimization function by combining various loss functions, increasing the performance by 15%.
- Utilized Amazon EC2 to deploy the model in cloud and made it accessible through a Flask API.

**Click through rate prediction using machine learning**

Technologies: Python(Scikit learn, Scipy, Matplotlib), Jupyter notebook, Tableau.

- Performed Exploratory Data Analysis and statistical testing to discover trends and patterns in the data.
- Developed a dashboard, visualising the trends and patterns observed in the data.
- Created an ensemble model using logistic regression, decision trees, random forest and XGBoost algorithms, attaining an accuracy of 82% .

**Polyp detection and segmentation in colonoscopy images**

Technologies: Python, Node js, React js, tensorflow js, apache airflow, Amazon Sagemaker, HTML/ CSS.

- Devised a data pre-processing pipeline to clean and prepare the procured dataset.
- Leveraged the pre-trained weights of VGG16 to develop a model with an accuracy of 93% and ROC of 0.91.
- Used Tensorflow js to execute the ML model on the server side and used React js and Node js for developing the front-end of the web application.

## Skills

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| **Languages** | Python, Java, SQL, Javascript, Typescript, C++, HTML/CSS |
| **Dev Tools** | Docker, Github, Tableau, Jupyter Notebook, Studio 3T |
| **Frameworks** | MERN stack(Mongo DB, Express.js, React.js, Node.js), Tensorflow, Flask, Django |

## Publications

Velamati, Anuraag. "Comparative Study of Machine Learning Algorithms for phishing website detection." International Journal of Engineering Applied Sciences and Technology, 2021, Vol. 6, Issue 1, ISSN No. 2455-2143,133-137.

Velamati, A. (2021). Traffic sign classification using convolutional neural networks and computer vision. Turkish Journal of Computer and Mathematics Education (TURCOMAT), 12(3), 4244-4250.