

# Shivangi Aneja

M.S. In Informatics

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*I am currently pursuing a masters degree at Technical University Of Munich, Germany with a focus on Deep Learning applications in Computer Vision and Biomedical Imaging.*

## Education

- 2017–present **Technical University Of Munich, Germany, M.S., Informatics.**
- 2011–2015 **National University Of Technology, Hamirpur (India), B.Tech., Computer Science & Engineering.**  
Awarded Gold Medal for academic excellence.

## Academic Projects

- Ongoing **Master Thesis : Self Supervised Forgery Detection in Videos, Visual Computing and Artificial Intelligence Lab, TUM.**  
Advisor Prof. Matthias Nießner: Exploring the extent to which fake videos surfacing the internet can be detected using FaceForensics++ dataset.
- 2018 **Polyp Localization in Colonoscopy Videos, Chair for Computer Aided Medical Procedures & Augmented Reality Lab, TUM.**  
Advisor Dr. Shadi Albarqouni: A Machine Learning In Medical Imaging Practical Course where several object detection networks were trained to detect polyps (malignant/benign) in colonoscopy videos from different studies.
- 2018 **Deep Image Compositing, Visual Computing and Artificial Intelligence Lab, TUM.**  
Advisor Prof. Matthias Nießner: A Deep Learning Project where GANs along with specialized loss function was used to make composite images look realistic without using image segmentation masks at test time.
- 2018 **Deep Clustering, Computer Vision Lab, TUM.**  
Advisor Vladimir Golkov: Trained deep neural networks (autoencoders) to improve the clustering accuracy/NMI on MNIST, FMNIST, CIFAR-10, STL-10 datasets. Visualized clustering results with t-SNE.
- 2017 **Data Mining Cup 2017, Decision Science & Systems, TUM.**  
Advisor Prof. Dr. Martin Bichler: A data mining challenge on the dataset provided by BMW about electric vehicle charging stations, with the aim to predict the availability of certain charging stations at a certain time.
- 2015 **Cooperative Spectrum Sensing in Cognitive Radio (Bachelor Thesis), Computer Science Department, NITH.**  
Advisor Dr. T.P. Sharma: Secondary users could use spectral band when not used by primary users. Local and cooperative sensing was used for energy detection.

## Experience

### Work Experience

- 2019–present **Working Student (Siemens Mobility, Gmbh), R & D Transportation Lab, Munich, Germany.**
- Designed the visualizer for path tracking using Google Maps API.
  - Removed noise from the GPS data using Kalman Filters.
  - Build models for activity prediction (Walk, Run, Car, Bus, Tram, Train etc) of the users.
- 2018 **Research Assistant, Institute for Computational Mechanics, TU Munich, Munich, Germany.**  
Worked for three months on the TUM startup project EbenBuild with the aim to improve artificial ventilation for lungs.
- 2015-2017 **Senior Software Engineer (Nucleus Software Exports Ltd, India).**
- **Algorithms Implemented:** Association Rule Mining, Sequence Mining Algorithm, Random Forest, K-Means Clustering, Logistic Regression, Multiple Linear Regression
  - **Performance Upgrade:** Improved Model Building Time of Decision Tree algorithm
  - **Database Script:** Creation, Rollback and Cleanup for the entire application

### Internships

- 2018 **Interdisciplinary Project (In Cooperation With TUM), Innospot Gmbh, Munich, Germany.**  
Implemented an AI-based software solution to keep track of the startup landscape using various web-crawling and machine learning techniques.

2014 **Summer Intern, IIT Bombay, India.**

Developed a forum for interaction between IIT professors and students. Also developed an android application for same forum to provide inter-connectivity with hand-held devices.

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## Achievements

2019 **Full Scholarship**, Eastern European Machine Learning Summer School, Romania

2019 **Travel Grant**, Advanced Technology Higher Education Network(ATHENS)

2017 **“L.I.V.E” Small Team Award**, Lending Analytics, Nucleus Softwares

2016 **“Pride Of Performance” Award**, Lending Analytics, Nucleus Softwares

2015 **Gold Medal** for graduating top of the Computer Science Batch (2011-2015) during Bachelor’s degree

2009 **Roll Of Honour** for graduating top of the High School (Science and Mathematics)

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## Workshops & Summer Schools

July, 2019 **Eastern European Machine Learning Summer School , Burcharest (Romania).**

Selected as one of the 160 participants (out of 700+ applicants from 70+ countries). One week (1-6 July 2019) of lectures and practical sessions on Deep Learning.

March, 2019 **Advanced Technology Higher Education Network(ATHENS) , TU Delft, Netherlands.**

Selected for one-week exchange program on Finite Element Algorithms.

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## Competitions & Hackathons

2019 **Artificial Intelligence for Social Good(AI4SG).**

Ranked 7/25 in the Kaggle Competition for data analysis and prediction of energy consumption on time series data.

2018 **HackaTUM 2018**, TUM, Germany.

Alexa App for interaction between Patients and Doctors for deep analysis of healthy/unhealthy eyes.

2016 **WCI (Wiki Conference India) 2016**, CGC College, Chandigarh, India.

Developed a WikiSpeak application which would speak the text on Wikipedia page in English Language.

2014 **Mozilla Firefox Hackathon 2014**, IIT Bombay, India.

Designed an application for Firefox devices for viewing Flight Schedule.

2014 **MediaWiki Hackathon 2014**, IIT Bombay, India.

Implemented multi lingual feature for certain pages of Wikipedia.

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## Volunteering Activities

2011-2015 **GLUG (GNU Linux Users Group)**, NITH, India.

Worked as an active member of college society GLUG

2011-2015 **CSEC (Computer Science Engineers Community)**, NITH, India.

Worked as an active member of college departmental society

2013-2015 **Literacy Mission "Prayas"**, NITH, India.

Taught the underprivileged students high school mathematics and science.

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## Languages

English (Business Fluent), German (A1)