# Maneesh Bilalpur

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## EDUCATION

*Master of Science by Research*
Electronics and Communication Engineering
International Institute of Information Technology, Hyderabad, INDIA          July 2015 - present
CGPA 8.5

*Bachelor of Technology*
Electronics and Communication Engineering
Vellore Institute of Technology, Vellore, INDIA          July 2011 - May 2015
CGPA 8.98

## PROFESSIONAL EXPERIENCE

*Researcher*          September 2017 – present
National University of Singapore, Singapore

- User Profiling with Implicit Behavioral Signals.
  Currently working on using deep learning for Emotion and Gender Recognition using EEG and gaze features during facial emotion recognition. This work employs CNNs to avoid the manual task of data preprocessing in EEG to design an online training model for the data scarce domain.

*Research Assistant*          July 2015 – September 2017
Center for Visual Information Technology, India          Adviser: Prof. Ramanathan Subramanian

- Discovering Gender differences in Facial Emotion Recognition using Implicit Behavioral Signals
  Worked on exploring low-cost commercial devices for acquisition and exploitation for user profiling tasks with machine learning methods.
- Cognitive Workload Classification for User-Interface Evaluation.
  Designed and performed data acquisition set-up with Tobii EyeX tracker and Emotiv EEG headset towards measuring cognitive workload with applications for user interface evaluation.

## PROJECTS

- Fine-grain Bird Classification using Siamese Network
  Designed a Siamese network for a 200 class bird classification problem using pretrained VGGNet using Tensorflow with Keras.          *Python*

- Image Classification using Advanced Algorithms
  Performed a 10 class image classification on CIFAR-10 and face recognition on Yale-face datasets using multiple Machine Learning methods with Bag-of-Visual-Words features.
  *Python & MATLAB*

- Content-based Image Carving
  Implemented Seam carving image cropping technique preserving SIFT features for reduction in image compression using Energy minimization approach.
  *MATLAB*

- Mathematical Modeling of Semiconductor Device Characteristics.
  Designing a simulation model of a 180nm MOSFET device physics properties considering second order leakage currents and parasitic capacitances to reflect a near fabrication condition transistor characteristics. *MATLAB*

## COMPUTING SKILLS

*Programming*: Python, MATLAB, C/C++
*Machine Learning*: Tensorflow(Keras), Pytorch, Scikit-learn, OpenCV

## PUBLICATIONS

- **Maneesh Bilalpur**, Syed Mostafa Kia, Tat-Seng Chua and Ramanathan Subramanian, "Discovering Gender Differences in Facial Emotion Recognition via Implicit Behavioral Cues", Affective Computing & Intelligent Interaction (ACII), 2017.

- **Maneesh Bilalpur**, Syed Mostafa Kia, Manisha Chawla, Tat-Seng Chua, Ramanathan Subramanian, "Gender and Emotion Recognition with Implicit User Signals", International Conference on Multimodal Interaction (ICMI), 2017.

- Viral Parekh, **Maneesh Bilalpur**, Jawahar. C.V., Ramanathan Subramanian, "EEG-based Cognitive Load Estimation Across Visualizations", submitted to Conference on Human Interactions(submitted to CHI), 2018.

- **Maneesh Bilalpur**, Syed Mostafa Kia, Mohan Kankanhalli, Ramanathan Subramanian, "Implicit Signals for Gender and Emotion Recognition", work in progress for the IEEE Transactions on Affective Computing.

## HONORS

- Student Travel Grant award winner for ACII'17.

- 6282 rank in *Graduate Aptitude Test in Engineering* exam (top 4% of the country in Electronics and Communication).

- NSS service member VIT Vellore chapter.

- Manager for event Pragathi at VIT university aimed against women harassment which secured a place in Guinness book of world records as largest human chain formation.