SWARNA KAMLAM RAVINDRAN

EDUCATION:

- M.S (by Research) in Electrical Engineering   Nov '14
  Specialisation: **Computer Vision**
  Indian Institute of Technology Madras (IIT-M), Chennai, India
  CGPA - 9.3/10.0
- B.E in Electronics and Communication Engineering (ECE)   May '09
  Anna University (MIT Campus), Chennai, India
  CGPA- 8.8/10- First Class with Distinction
- Class 12 (Higher Secondary): DAV HSS   Mar '05
  98% overall, Maths: 99.5%, Physics: 98.5%, Chemistry: 99.5%
- Class 10 (Secondary Exam): PSBB SSS   May '03
  93% overall, Maths: 99%, Science: 97%

PUBLICATIONS:

- Swarna Kamlam Ravindran and Anurag Mittal, Paper on Features for Point Tracking and SfM applications, *submitted to* **CVPR '15.**
- Extension of Features for Tracking *to be submitted for publication***.**
- 3D Face Recognition system using a Local Shape Descriptor -selected for the **International Symposium on Computing, Communication, and Control ISCCC 2009** organized by IACSIT.

ACHIEVEMENTS/AWARDS:

- Research Scholarship at the University of Naples ('14)
- USC Viterbi Dean's Master's Fellowship ('10)
- BSNL (Bharat Sanchar Nigam Limited) Technical Scholarship ('05 - '09)
- Mrs. YGP Endowment Scholarship ('99 – '02)
- Secured rank 378 out of 169,000 applicants in all-India Engineering Entrance Examination. ('05)
- First among over 5000 applicants in the IIT-M entrance exam ('11)
- Rank 19 in the National level PCM Scholarship Exam. ('98-'99)

EXPERIENCE:

- **Project Officer** at the Computer Vision Lab, CSE Dept, IIT-M (Jan '13 – Present)
- **Project Associate** at CV Lab, IIT-M (Dec '09 – Dec '12)
- **Design Engineer Trainee** at Xambala Inc (Financial Information processing), Chennai, India (May '09 - Aug '09)

PROJECTS: Computer Vision and Pattern Recognition

- Analysed and built systems on Feature Detection for 2D and 3D surveillance applications for the DRDO (Defense Research and Development Organization) project and DST (Department of Science and Technology) Project.
- 3D Face Recognition systems based on local shape descriptors. (B.E Thesis)

- Object Detection system using principles of symmetricity to identify bags, or extraneous objects like vehicles or animals in the frame.
- 3D reconstruction, mosaicing and Contour detection software.
- Stutter Recognition and Digit Recognition softwares.

PROJECTS: Coding and Information theory
- Investigated the presence of an error-correcting code in E. coli DNA using a Mutual Information based HMM.
- Built Generic Encoder-Decoders for: (a) Different types of LDPC codes and channels (b) Convolution codes using Viterbi's algorithm (c) Soft Linear Block Codes using Bossert Hergert Algorithm.
- Modeled a framework for non-stationary signal analysis using spectrogram, scalogram and Wigner- Ville distributions.
- Part of a team that built analysis tools for variation in price of a stock. (Xambala)

SKILLS and COURSES:
- Languages and Tools: Matlab, C, C++, Bash Shell Scripting, OpenCV
- Math: Advanced Signal Processing, Information and Coding theory, Probability, Linear Algebra and Math for Signal Processing.
- CS: Computer Vision, Geometry for Computer Vision and Digital Video Processing, Pattern Recognition

CO-CURRICULAR ACTIVITIES:
- Was among the group of 25 students invited to **The 3rd Microsoft Research India Computer Vision and Graphics Shindig**, a meeting of top CV researchers across the world, ('10)
- Participate in Competitive Programming contests.
- Attended ICTS School on Network Science in EECS at IISC, Bangalore ('12)
- In-plant Training at Reliance Communications and Airport Authority of India ('08)
- Attended technical workshops by IEEE, TI, IBM, IETE ('08-'09)

EXTRA-CURRICULAR ACTIVITIES:
- Research Assistant on "Made in Madras Ink" Documentary on Rehabilitation after the Tsunami. ('05) ▪ Silver medal for trekking, cave exploration by Akara. ('03) ▪ Trek extensively with the Chennai Trekking Club ▪ Third in the zonal Table Tennis Tournament. ('02).

REFERENCES:
Dr. Anurag Mittal, Associate Professor, CSE dept, IIT-M. email: **amittal@cse.iitm.ac.in**
Dr Andrew Thangaraj, Associate Prof., EE dept, IIT-M, email: **andrew@ee.iitm.ac.in**