MTech 2011 Orientation

Parag Chaudhuri
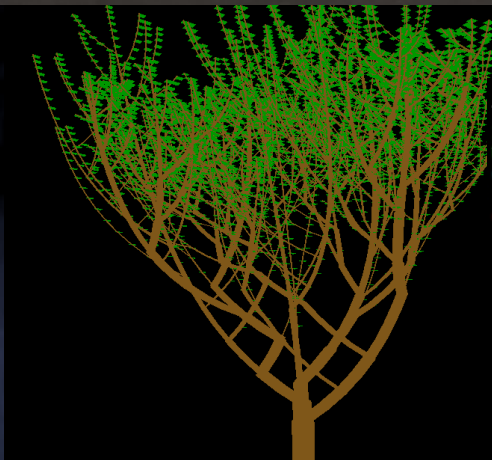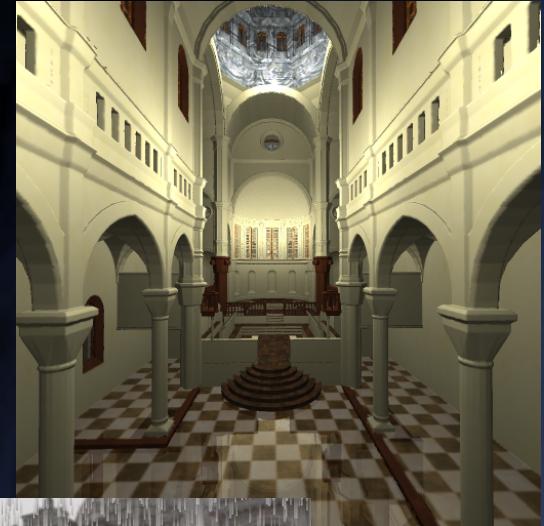
Sharat Chandran

www.cse.iitb.ac.in/~{paragc,sharat}

http://www.cse.iitb.ac.in/graphics

Computer Graphics @ CS-IITB

Computer Vision @ CS-IITB
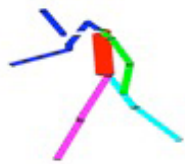
Computer Vision @ CS-IITB
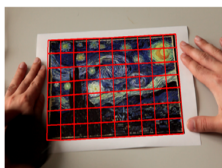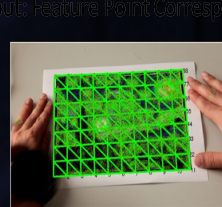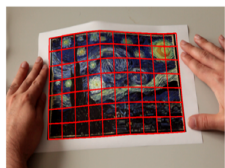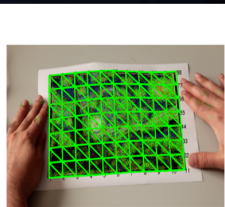
(a) Input: Feature Point Correspondence

(b) Prior Methods

(c) This paper
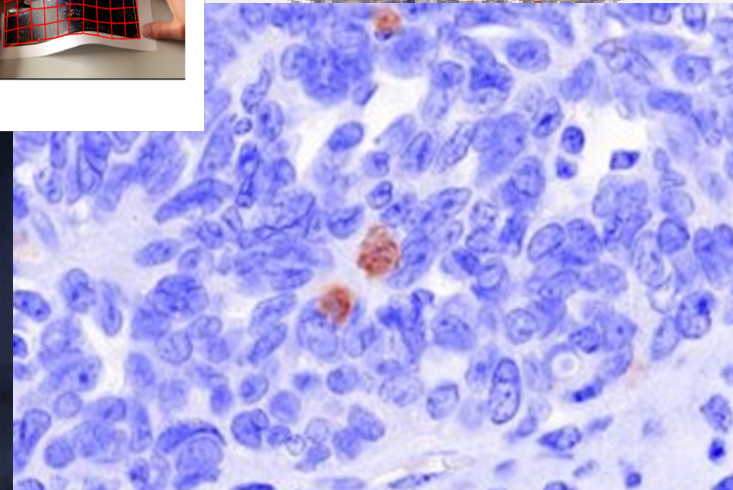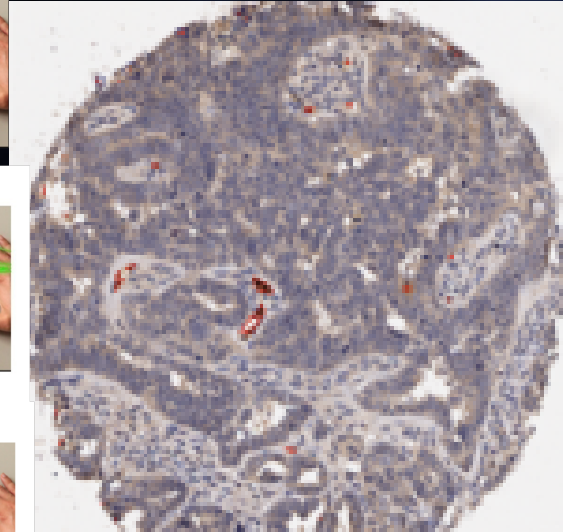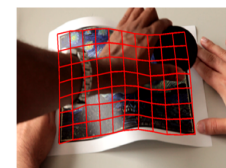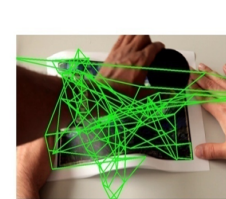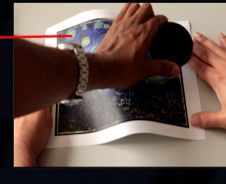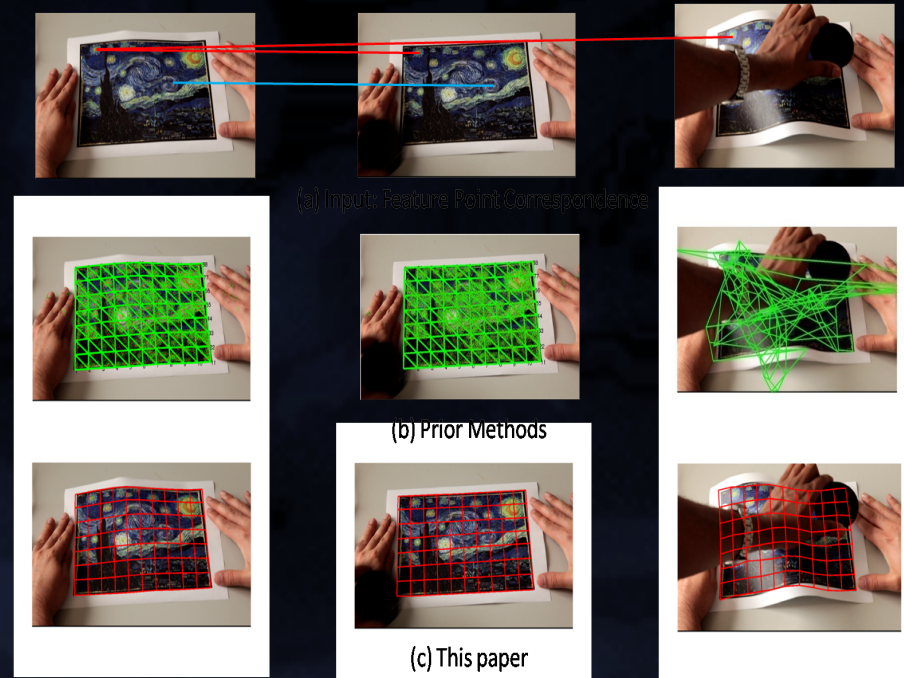
- Reconstruction of deformable surfaces from video.

- Above results are from a BTP and a prior MTP – 1 paper published this year.

Computer Vision @ CS-IITB

- Segmention for Cancer prognosis.

- PhD thesis results– 1 paper published last year.

- Continuing PhD.
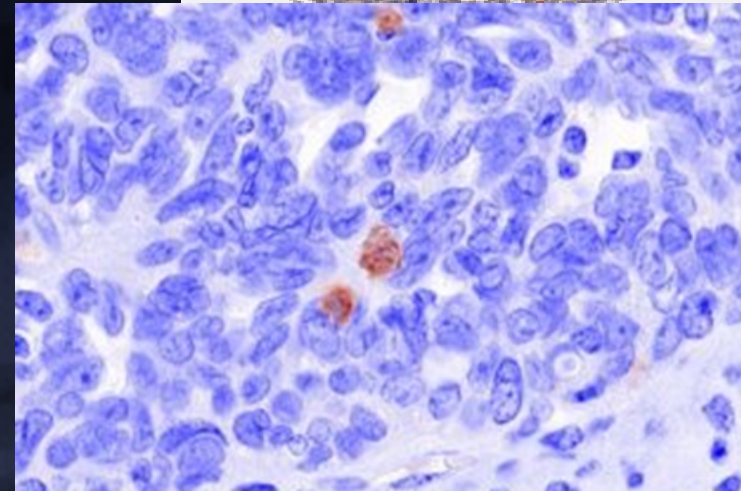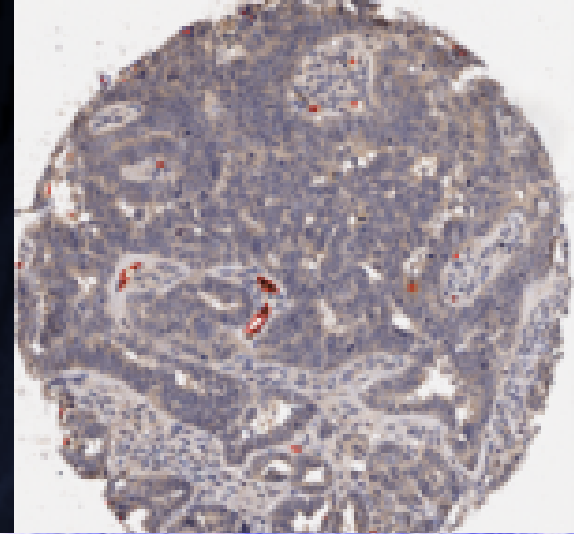
Computer Vision @ CS-IITB

- Projector-Camera Systems – Projecting in dual planar environments.

- PhD thesis results – 1 paper published this year.

- Continuing PhD.

Course Basket

- Courses This Semester
    - Computer Graphics (CS 675)
    - Digital Image Processing (CS 663)
- Next Semester
    - Advanced Computer Graphics (CS 775)
    - Computer Vision (CS 763)
- Allied Courses
    - Machine Learning, Computer Aided Geometric Design, Optimization, Data Mining, Probability&Linear Algebra
    - R&D Project, Seminar
- Don't Hesitate to Take UG courses

Work with us

No pre-requisite | No pre-requisite | No pre-requisite

CS475/CS675 Computer Graphics — Pre-requisite → **CS663 Digital Image Processing**

Seminar (Sem 1)

Pre-requisite (CS475/CS675 → CS775)

CS775 Advanced Computer Graphics

Pre-requisite (CS663 → CS763)

CS763 Computer Vision

Pre-requisite → **Seminar (Sem 2)**

Pre-requisite (CS775 → Research)

Pre-requisite (CS763 → Research)

Research in Graphics, Vision, Image Processing

Pre-requisite

Seminar & Research

- Current View of M.Tech Students: Help in bringing into focus the research capabilities
  - Good idea to choose to work with me earlier, rather than later
  - Demand that research be fun
- Essential to take the seminar with me ideally this semester
- You can opt out of a M.Tech Project; however the default is that you will be opting in

Working Together

- Building a fruitful working relationship takes time and mutual respect
  - Different from being friends
  - Different from being a course instructor
- Building a research idea into fructification takes a lot of time
  - Necessary but not sufficient

Practical Realities

- Key problem: Limited resources
- Probability of multiple students wanting to work with the same professor is high
- Vice versa
- Possible Solutions:
  - Take the seminar in the first semester
  - 3 Year RA

Topics and Number

- Anything in Graphics and Vision
    - From photographs to 3D
    - Light Transport in Computational Photography
    - Histopathology imaging based Cancer detection
- Success stories from ML in Comp Vision
- GPU computing (with Prof. Aluru)
- Link on dept wiki
- Number of students:
    - ∞ (if first semester),
    - 0 if second semester (you need to convince me)