# Chinmay Nandan Samant

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## RESEARCH INTERESTS

Medical Imaging, Machine Learning, Image Processing

## EDUCATION

**Masters in Computer Vision(Erasmus Mundus Vision & Robotics)** — Le Creusot, France
***University of Bourgogne*** — Sept 2013 - Aug 2015
**Bien** (14.927/20)

- Image Processing, Medical Imaging, Scene Segmentation and interpretation, Visual Tracking, Machine Learning, Neural Networks
- Autonomous, Probabilistic Robotics, Self-calibration, Localization, Computer Vision, 3D reconstruction/ registration, Visual Servoing

**Masters in Electronic Science** — Pune, India
***University of Pune*** — Aug 2010 - Apr 2012
**First Class** (66.15%)

- Embedded systems design, Digital Signal Processing
- Analog, power electronics design

**Bachelors in Electronic Science** — Pune, India
***University of Pune*** — Aug 2007 - Apr 2010
**First Class** (69.58%)

- Minors: Mathematics, Physics, Statistics

## WORK EXPERIENCE

**ICUBE, *University of Strasbourg, France*** — Feb 2015 – Present
**Intern**
**Real-time marker segmentation and tracking in MRI**

- Intelligent segmentation and robust tracking of the marker
- Evaluating deformity in the shape of the marker
- Physical design of the marker

**LE2i, *University of Bourgogne, France*** — Jul 2014 – Aug 2014
**Intern**
**Wood texture analysis and classification**

- Classification of wood material based on the patterns present on the wooden planks.
- Feature Extraction & Machine Learning

**Center for Sensor Studies, *University of Pune, India*** — Jul 2012 – Jun 2013
**Research Assistant**

- Ultrasonic Transducer Applications: Coal Presence Detection, Runtime mass fluid flow measurement, Ultrasonic Transducer Development, Embedded Systems Development

## PROJECT EXPERIENCE

**Medical imaging tool for object volume reconstruction**

- A MATLAB tool for manual segmentation and volume reconstruction in medical images

**Machine learning algorithms for segmentation and classification**

- A thorough study of state of art algorithms mainly for medical applications

**3D reconstruction simulation tool for pattern projection based active camera systems**

- Simulation of a camera and projector system for virtual 3D reconstruction

**Visual tracking**

- Extensive study of visual tracking algorithms and their applications

**FPGA based temperature module**

- Temperature signal processing module, VGA display and other controls

**Robotics surveillance**

- Autonomous robotic surveillance with Turtlebot based of ROS.

**Visual servoing**

- Study of state of art visual servoing methods

**Wavelets based compression and filtering**

- Image analysis with wavelets and its applications

**Surveys and implementations**

- Edge Detection in Color Images
- Compressed Sensing

**Single View Metrology tool for Height estimation**

- A MATLAB tool for depth and height estimation using a single webcam

**Kohenen network learning for classification of patient data**

- Implementation in MATLAB to classify complex patient movement data

**Computer Vision/Image Processing Toolbox**

- Implemented in OpenCV and MATLAB, built with complete user interface for Images, Videos and Live camera feed.

**PCA based face recognition**

- PCA was implemented to detect faces out of pool of images. Implemented in MATLAB.

**Interactive Map Software**

- Google maps alike offline map software created for Le Creusot, using OpenCV and MATLAB.

**Masters in Electronics Thesis: Non-Contact Liquid Level Measurement using Ultrasonic Sensors**

- An Ultrasonic Sensor system was developed to measure liquid level without contact.

## SKILLS

- Computer Languages: C/C++ , MATLAB, Assembly, VHDL
- Electronics: Microcontroller Programming, Hardware Design
- Tools: ROS, Qt, Codeblocks, OpenCV, GitHub, Orcad

## ADDITIONAL

Fluent in English, Marathi, Hindi. French Basic; Hobbies: Tech gadget analysis & testing, music & sports