

# Chinmay Nandan Samant

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## RESEARCH INTERESTS

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Medical Imaging, Computer Vision, Machine Learning

## EDUCATION

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**Research Engineer, PhD Student** Strasbourg, France  
**SIEMENS-HEALTHCARE, ICUBE-CNRS, University of Strasbourg** Nov 2015 - Current

- Ultrasound laparoscopic guidance for minimally invasive surgery, biopsy, and ablation procedures
- IMU-Camera information fusion for advanced indoor positioning.

**Masters in Computer Vision (Erasmus Mundus Vision & Robotics)** Le Creusot, France  
**University of Bourgogne-FrancheCompte** Sept 2013 - Aug 2015

- Medical Imaging, Image Processing, 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

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

**Bachelors in Electronic Science** Pune, India  
**University of Pune** Aug 2007 - Apr 2010

- Minors: Mathematics, Physics, Statistics

## WORK EXPERIENCE

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**SIEMENS-HEALTHCARE, France** Nov 2015 - Present  
**Engineer**

Localization and tracking of Laparoscopic Ultrasound Probe

**ICUBE-CNRS, France** Aug 2015 - Oct 2015  
**Research Engineer**

Software development for marker tracking in MRI

**ICUBE-CNRS, University of Strasbourg, France** Feb 2015 - Jul 2015  
**Intern**

Real-time marker segmentation and tracking in MRI

**LE2i-CNRS, University of Bourgogne, France** Jul 2014 - Aug 2014  
**Intern**

Wood texture analysis and classification

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

Ultrasonic Transducer Applications

## PROJECT EXPERIENCE

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### **Medical imaging tool for object volume reconstruction**

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

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

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

### **FPGA based signal processing module**

- Temperature signal processing module, VGA display and other controls

### **Robotics surveillance**

- Autonomous robotic surveillance with Turtlebot based of ROS.

### **Wavelets based compression and filtering**

- Image analysis with wavelets and its applications

### **Single View Metrology tool for Height estimation**

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

### **Kohonen 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

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- Computer Languages: C/C++, MATLAB, Assembly, VHDL, Python
- Electronics: Microcontroller Programming, Hardware Design

## ADDITIONAL

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