

# Kuntal Kumar Pal

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www.linkedin.com/in/kuntal-pal-07420912a

## Education

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- **National Institute of Technology, Calicut** **Calicut, Kerala**  
○ *Masters of Technology in Computer Science & Engineering, GPA: 8.80/10*  
(Among top 5 in the Department) *2014 – 2016*
  - **Jadavpur University** **Kolkata, West Bengal**  
○ *Bachelor of Engineering in Information Technology, GPA: 8.53/10* *2005 – 2009*
- Related Coursework:** Machine Learning, Pattern recognition, Natural language processing, Data Mining.  
**Programming Languages:** C, C++, Core Java, Python, PL/SQL.  
**Machine Learning Related:** OpenCV, Theano, R  
**GRE:** 316/340 (V:154, Q:162, AWA:3.5)  
**TOEFL:** 102/120 (R:25, L:25, S:24, W:28)

## Conferences & Publications

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- Kuntal Kumar Pal, Prantik Howlader, Alfredo Cuzzocrea, S. D. Madhu Kumar. **Predicting Facebook-Users' Personality based on Status and Linguistic Features via Flexible Regression Analysis Techniques** *In Proceedings of ACM SAC Conference (SAC18) [Accepted]*
- Kuntal Kumar Pal and K. S. Sudeep. **Preprocessing for Image Classification by Convolutional Neural Networks.** *Recent Trends in Electronics, Information Communication Technology (RTEICT), IEEE International Conference on. IEEE, 2016.*

## Research Projects

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- **Object Detection and Classification**  
○ *Advisor : Dr. Sudeep K. S., Assistant Professor, NIT Calicut*  
Object detection and identification from images of CIFAR10, PASCAL VOC 2012 dataset with classifiers trained in CIFAR10 dataset.
  - Used selective search and non-maximal suppression for detection.
  - Identified objects with Nearest Neighbor classifiers, simple Neural Networks and Convolutional Neural Networks trained on GPU.
  - Used multiple activation functions along with various image preprocessing techniques like PCA, ZCA, Standardization and studied the impact of each, on the classification.
- **Component Based Image Approximation Search**  
○ *Advisor : Dr. Sudeep K. S., Assistant Professor, NIT Calicut*  
Worked on determining how inter-related two images are based on their contents (components). An image having a number of birds is far more related to a picture having a few birds and an animal than the third picture with all cars. A given image with multiple objects is compared among a set of other such images. We have produced an ordering of the images of the set based on its similarity with a given image with top-most being most similar to the given image. For establishing this similarity, we have matched the components using convolutional neural network and ZCA pre-processed image.
- **Prediction of Facebook user's Personality from their Posts**  
○ *Advisor : Dr. S. D. Madhu Kumar, Associate Professor, NIT Calicut*  
Predicted BIG5 personality of Facebook users from their posts using Latent Dirichlet Allocation and regression techniques like Support Vector Regression with linear, polynomial and RBF kernels and Decision trees. Improved the prediction performance by adding other linguistic features and shown a comparison between the performance of each of the regressors.
- **Head Pose Detection Using Histogram of Gradient**  
○ *Independent Project*  
Classified individual images using HOG features based on their head-poses. Also, these features have been used to track head positions in a video. This can be used in driver safety programs to identify distracted drivers.

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## Work Experience

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- **Cavium Networks** **Bangalore, India**  
○ **Engineer I** *July 2016 – Present*

Working on Xpliant network switches.

  - Working on the management of blocks of the Software Defined Engine of various versions of flexible and fully programmable Xpliant network switches.
  - Creation and management of a shell based platform for configuring the Software Abstraction Interface(SAI) layer of Open Compute Project and integrated with Xpliants' software development kit. This platform is extensively being used for testing for SAI features.
  - Worked on generation of meaningful highlights of a delivery by extracting information about bugs fixed and new features incorporated from the git comments.
  
- **National Institute of Technology, Calicut** **Calicut, India**  
○ **Teaching Assistant** *August 2015 – April 2016*

In charge of development of practice questions for B.Tech students of Database and Data-Structure laboratories. Provided guidance and assistance to students and evaluated bi-weekly assignments. Was a member of evaluation panel for the final examination.
  
- **Tata Consultancy Services** **Kolkata, India**  
○ **IT Analyst** *September 2009 – July 2014*

Worked on migration of insurance policies from old UK insurance system to advanced TCS Bancs using PL/SQL and oracle database.

  - Responsibilities involved data analysis, migration strategy formulation, data cleansing, code development, performance tuning and post-migration issue handling.
  - Actively associated with complete migration of 4 United Kingdom legacy insurance systems to TCS Bancs insurance platform.
  - Developed an automated deployment, delivery and version control platform for the database which reduced delivery time to few hours instead of the whole day and removed manual intervention.

## Achievements

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- Among top 0.28 percent students in highly competitive entrance examination for the masters program, GATE 2013
- Received Ministry of Human Resource Development, Government of India scholarship for 2 years covering tuition fees for Masters Program.
- TCS Service and Commitment award for continuous three years of dedicated service.
- TCS best team award, 2012 and 2014 in a project with over 200 employees.
- TCS on the spot award for successful data migration of a critical system, 2013 in a project with over 200 employees.