Bo Yang

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Education

- **University of Central Florida**   **Orlando, FL**
  Computer Science, M.S.   *08/2012 – 05/2014*
    - Research interests: Machine Learning, Computer Vision, Bioinformatics
- **Beijing Institute of Technology**   **Beijing, CN**
  Pattern Recognition & Intelligent Systems, M.E.   *09/2006 – 06/2008*
    - Thesis: *Research on EMI Pre-Estimate and Intelligent Fault-Diagnosis System*
- **Nanjing Normal University**   **Nanjing, CN**
  Electrical & Automation Engineering, B.S.   *09/2002 – 06/2006*
    - Thesis: *A New Algorithm for Multi-task Scheduling in Distributed Control System*

Work Experience

- **University of Central Florida**   **Orlando, FL**
  Teaching Assistant   *08/2013 – 05/2014*
    - COP 4020: Programming Language I (Spring 2014)
    - CGS 3763: Operating System Concepts (Fall 2013)

  Research Assistant   *08/2012 – 08/2013*
  I worked in the Bioinformatics lab mainly on three projects: Metagenomic Binning, Nucleosome Prediction and 1000 Genomes Project.

- **Alcatel-Lucent**   **Beijing, CN**
  Member of Technical Staff   *07/2008 – 07/2012*
  I worked on Alcatel-Lucent's inner network-level simulation & test environment COOL(*Cellular Out-Of Lab*), which could simulate dedicated hardware by software and run most wireless products on distributed low-end physical/virtual machines. Compared to the expensive physical labs, we could provide more flexible and cost-efficient product development & test services.

  As a developer, I developed new features for the platform using C/C++, Java and other in-house languages(e.g. Ksh, Perl, Tcl/Tk, Python). More specifically, I took charge of:
    - adding code to support new protocols or new CDMA/LTE products(e.g. Media Gateway and its controller),
    - modifying existing code to support new product features,
    - adding new functions to speed up product development and tests,
    - debugging and fixing issues found by our users,
    - expanding COOL as a general test platform based on enterprise cloud,
    - deploying virtual machines(VMware ESXi and KVM) to COOL,
    - porting COOL from Solaris to Red Hat Linux,
    - designing & implementing COOL automation and continuous integration system.

  During the four years in Alcatel-Lucent, I delivered 20+ new features to our environment, solved 200+ users' issues and provided 7 training sessions to our users. And as a whole, my team saved the company millions of dollars(by maintaining less physical labs) and speeded up the development of dozens of new wireless features.

Selected Projects

- **Implementing Cache Inclusion Property**   *03/2014 – 04/2014*
  (*C/SimpleScalar, In-class project, with Lan Long*)
  I enhanced the general cache structure and implemented the inclusion property function of cache systems, which reduced the overall DL2 miss rate by 1.5%.

- **Action Recognition with Fisher Vector and Dense Trajectories**   *01/2014 – 02/2014*
  (*Matlab/Bash, Research project, with Dr. Mubarak Shah*)
  In this project, I achieved 85.53% mean accuracy on dataset UCF 101 with Fisher Vector encoded Improved Dense Trajectory Features(IDTF) and linear SVM classification. To handle the huge IDTF data, I designed an action-by-action pipeline and adopted parallel programming to concurrently process video clips.

- **Action Recognition with Deep Learning**   *08/2013 – 11/2013*
  (*Matlab/Bash, Research project, with Dr. Mubarak Shah*)
  This project aimed to do human action recognition on dataset UCF 101 using Independent Subspace Analysis(ISA) neural network. The ISA networks can learn features that are robust to local translations with unsupervised training. With my Matlab implementation, the mean accuracy of action recognition was 59.6%, which was about 15% higher than the baseline.

- **Metagenomic Binning with Generalized Poisson Model**   *09/2012 – 05/2013*
  (*C++/Perl, Research project, with Dr. Xiaoman Li*)
  Metagenomics is the study of microbial communities sampled directly from their natural environment, without prior culturing. In this project, I designed and implemented a Generalized Poisson Distribution(GPD) model in C++ to cluster metagenomic reads into as many species as possible. Finally my GPD model could identify more species than the well-known AbundanceBin method.

- **EMI Measurement & Fault-Diagnosis System**   *08/2007 – 05/2008*
  (*C++/SQL, Research project, with Dr. Ming-Gang Gan and Dr. Tao Cai*)
  The goal of this project was to build a complete solution for Electromagnetic Compatibility(EMC). While spectrum analyzer and Rohde & Schwarz EZ-17 probes were used as the hardware, I implemented the software of EMI(*Electromagnetic Interference*) prediction, measurement and faults diagnosis using Visual C++(MFC) and SQL server.

Publications

- XU Long, GU Juan, **YANG Bo**, et al., *Common Test Platform Based on Virtualization and Cloud Computing*, the Alcatel-Lucent China Product R&D Technical Symposium, December 9, 2011, Shanghai, China (Best Paper Award)

- GAN Ming-Gang, CHEN Jie, **YANG Bo**, et al., *Intelligent Fault Diagnosis Research of Electromagnetic Interference Based on the Combination of CBR and RBR*, the 29th Chinese Control Conference (CCC), July 29-31, 2010, Beijing, China

Technical Skills

Programming Languages: C/C++, Java, Python, Matlab, Bash/Ksh, Perl, Tcl/Tk, Expect, JavaScript, Go, SQL
Operating Systems: Linux/Unix, Mac OS X, Windows
Databases: MySQL, Oracle, SQL Server, MongoDB
Other Software: VMware ESXi, KVM, Hadoop, Spark, SVN, Git, etc.

Links

[**My blog**] http://bo-yang.github.io/   [**GitHub**] https://github.com/bo-yang
[**LinkedIn**] https://www.linkedin.com/pub/bo-yang/21/a3/893