ANURAG SINGH

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Summary

Seeking a position where I can contribute with my analytical skills, strong foundations in computer science with a PhD and a strong business sense.

EXPERIENCE

Industry

- **Software Developer - Cloud Computing** — Mar 2011 - Aug 2011
  Celigo Inc — *Foster City,CA*
  – Platform as Service, Software Integration, Java Script, Java
- **Intern** — Dec 2006 - Jan 2007
  Rane Trw — *Chennai,India*
  – Performance analysis of servo boiler

Academic

- **Research Assistant** — Aug 2011 - present
  University of Louisiana at Lafayette — *Lafayette,LA*
  – Computer vision, pattern recognition, GPU programming, deep learning
- **Research Assistant** — Aug 2009 - Jul 2010
  Louisiana Immersive Technologies Enterprise — *Lafayette,LA*
  – Semi-automatic Scene Generation for Urban Scenarios

Technical Background

Workstation : Linux (preferred), Windows

Languages : C/C++ (preferred), JAVA, Matlab, PHP, SQL, Python, JavaScript

Packages/API : OpenCV, WEKA, NumPy, SciPy, CUDA,

IDE/Tools : Eclipse, Shell script, GIT/SVN, Valgrind

Data Science : Machine Learning, database (Mysql, Hadoop, MongoDB), Visualization (D3.js, Gephi)

SDLC: OOPS, Waterfall, Iterative and Agile Methodology

Education

- **University of Louisiana at Lafayette** — Lafayette, LA
  PhD in Computer Science (GPA-3.83) — *2011 - 2015*
- **University of Louisiana at Lafayette** — Lafayette, LA
  Master of Science in Computer Science (GPA-3.81) — *2008 - 2010*
- **Anna University** — Chennai, India
  B.E. in Electronic and Instrumentation Engineering (GPA-74 out 100) — *2004 - 2008*

Teamwork/Leadership Experience

- Organized weekly Lab Seminars
- Helped in coordinating and conceptualizing various team projects
- Awarded a scholarship to attend ENS summer school on visual recognition
- Presented papers at various peer-reviewed conferences

Selected Projects

- **Learning to predict Video Saliency**
  - Developed a novel SVM based feature integration to predict video saliency.
  - The feature combination and temporal inference gave state-of-the-art results.
  - Matlab, OpenCV, Weka, Shell
- **Highway Scene analysis**
  - Implemented road object localization and detection
  - Urban-Rural Scene classification using neural networks
  - Regression based near-far detection of vehicles on road
- **Software Toolkit funded by United State Army Research Lab**
  - Our team Designed, developed, implemented and tested algorithms
  - Software Library in C++ for fast auto content generation of 3-D middle eastern city
  - Software developed was robust, simple and faster than commercial Software
- **Wikipedia Mining :**
  - Our team developed an API in Java for a ***recommender system*** that generates gazetteer
  - System gave high Recall and Precision.
  - Development Tools:- Wikipedia English edition dump size of 40GB, Mysql database and JWPL
- **Computational Geometry :** Surface Extraction from a **Point Cloud Data**
  - Recognition of surface like roads, tree and houses from a Lidar Point cloud data taken from an aircraft
  - Implemented a generic K-Nearest Neighbor search function to find neighbors of a point
  - Implemented functions for normal estimation using Least Square fitted plane and Gauss-Jordon Estimation
  - Development Tool:- C++, KD-Tree, Computational Geometry
- Implemented a **computer game** similar to Galaga using Glut and OpenGL
  - SDLC:- Waterfall Model, Versioning system, design Patterns, Memory Management using smart pointers
  - Development Tools :- C++, OpenGL, Glut, UML, SVN, Valgrind, GDB and Doxygen

Publications

- Singh, Anurag, Chu, Chee-Hung Henry and Pratt, Michael A. , "Visually Salient Features for Highway Scene Analysis" MVA '15
- Singh, Anurag, Chu, Chee-Hung Henry and Pratt, Michael A. , "Saliency Detection using Geometric Context Contrast Inferred from Natural Images" Visapp '15
- Singh, Anurag, Chu, Chee-Hung Henry and Pratt, Michael A. , "Learning to predict video saliency using temporal superpixels" ICPRAM '15
- Singh, Anurag, Chu, Chee-Hung Henry and Pratt, Michael A. , "Multiresolution superpixels for video saliency detection" IEEE SSCI '14
- Singh, Anurag, Pratt, Michael A. and Chu, Chee-Hung Henry, "Visual saliency approach to anomaly detection in an image ensemble" SPIE Proceedings Vol. 8750 May 2013
- Singh, Anurag, Pratt, Michael A. and Chu, Chee-Hung Henry, "Compressive sampling approach to visual attention in image scene analysis", SPIE Proceedings Vol. 8401 May 2012

References

- It will be provided on request