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naveen.k.tiwari@gmail.com | <https://www.linkedin.com/in/naveenktiware> | 623-760-7175 **Naveen Kumar Tiwari**

Summary

Graduate student pursuing MS in Computer Science at Arizona State University with 3 years of industrial exposure in a highly competitive environment, having an attitude of overcoming any shortcomings and looking for new challenges, currently seeking summer internship for 3 months in the field of software development.

Educational Background

Master of Science, Computer Science (GPA 3.67/4)	Arizona State University	Fall 2017
Bachelor of Technology, Information Technology (GPA 8.47/10)	IIIT, Allahabad, India	May 2012

Professional Experience

Senior Software Engineer, Tally Solutions Private Limited, India *July 2012 to July 2015*

- Database and database Schema for Tally's proprietary database using C++
 - o Designed and developed accumulators (computed persisted values on the disk for instant lookup). For 1000x1000 records, report came up in 1 sec where it took more than 20 minutes without accumulator.
 - o Designed and developed database indices for quick look-up of the records using B-Tree and forest data structure, this led to significant speed gain for record traversal.
 - o Design and develop DDL for the Tally's database in Tally Definition Language (TDL)
 - o Designed and developed migration flow process which can be controlled by the business language of Tally (TDL).
 - o Researched and developed business centric data types.
- Designed and devised a simple interface and backend for XBRL financial reporting framework.
- Design and implementation of REST protocol to make Tally product REST compliant.
- Conducted training for new joiners to help them understand the product design and code base.

Academic Projects

Spell-Checker for OCR *June 2011 to Jan 2012*

- Research, design and develop post processing module of OCR for Tibetan scripts to rectify errors by developing an algorithm based on relative position of characters in the text using n-gram model and confidence level from OCR classifier (Tibetan language does not have dictionary) using C as the programming language.

Optical Character Recognition for Tibetan Script *Oct 2010 to June 2011*

- Developed segmentation module for separating characters from the scanned page.
- Researched and developed heuristic based component separation algorithm to separate overlapping characters, characters connected due to ink spread, poor scan, etc. in C programming language.
- Researched and developed classifier for characters' identification through k-nearest neighbor, principal component analysis and support vector machine techniques.
- Designed and developed post processing module to recombine the identified characters to generate the final document.

Training Set Generator *June 2010 to Oct 2010*

- Programmed a semi automatic GUI based tool to create learning sample set for Tibetan OCR using QT GUI framework.

Snake and Ladder *Mar 2010 to May 2010*

- Developed "Snake and Ladder" game in 2D and 3D using OpenGL.

Shopping System *Mar 2010 to May 2010*

- Deliver a Java based application for shopping system where the user can browse catalog and choose items that he/she needs.

Flowchart to Code converter software *Mar 2010 to May 2010*

- Designed and implemented a Visual C++ GUI based application to generate a functional C++ code from a simple flowchart input by the user.

Technical Skills

Programming Language	C, C++, Java, Python, Shell Scripting, OWL Clingo, Matlab
Other Skills	Hadoop, Xerces, XML, JSON, GDB, Visual Studio, MS Word, MS Excel, REST, SOAP
Graduate Courses	Algorithms, Advance Operating System, Artificial Intelligence, Data Mining, Software Security, Applied Cryptography.