

Akash Srivastava

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EDUCATION	B.Tech in Information Technology - 8.55/10 (6 Semesters) 2017* National Institute of Technology Patna, Bihar, India
	Intermediate - M.P.V.M, Allahabad (CBSE) - 86% 2012
	Matriculation - A.F.S, Allahabad (CBSE) - 83.6% 2010
RESEARCH INTERESTS	Concurrent and Parallel Programming, Image Processing.
EXPERIENCE	For details, please visit: https://akash1684.github.io/projects
	<ul style="list-style-type: none">• Deadlock-free synchronization for GPU architecture Research Intern June 2016, Present <i>GPU Centre of Excellence(GCOE), IIT Bombay, India</i><ul style="list-style-type: none">– Presently, working towards development of a deadlock-free algorithm to synchronize threads for GPGPU applications on CUDA framework.– Proposed algorithm is inspired by Banker's algorithm for resource allocation in CPU and is being tested on Delaunay Mesh Refinement Benchmark.• A MHP Analysis Framework for SPMD Model Summer Intern May 2016, June 2016 <i>Advisor : Prof. R.K Shyamasundar (IIT Bombay, India)</i><ul style="list-style-type: none">– Developed a framework for May-Happen-In-Parallel Analysis for Single Program Multiple Data (SPMD) Model using Async and Finish constructs.– Framework takes X10 Program and two Statements as input and return Condition Vectors Set (CS) that defines whether the statements can execute in parallel or not.• A novel PSO algorithm for DWT-SVD Watermarking Summer Intern May 2015, June 2015 <i>Advisor : Prof. K.K Mishra (MNNIT Allahabad, India)</i><ul style="list-style-type: none">– In this project a novel particle swarm optimizer (PSO) variant is proposed and is compared with 5 well known PSO variants using CEC'13 benchmark function.– Existing watermarking scheme for RGB image based on singular value decomposition (SVD) in DWT (Discrete wavelet transformation) is further optimized using proposed PSO variant.– Result: Reduction upto 33% in FES (Function Evaluations) for some basic multimodal functions and 22% increase in fitness of the watermarking scheme compared to the conventional scheme.
PUBLICATIONS	<ul style="list-style-type: none">• Akash Srivastava. "Performance Comparison of Various Particle Swarm Optimizers in DWT-SVD watermarking for RGB Images" in Proceedings of the IEEE 6th International Conference on Computer and Communication Technology (ICCT 2015)[PDF].• Akash Srivastava,Rohit Raj,Prabhat Kumar. "Improved Representative Point Matching Technique for Video Stabilization" in IET Image Processing,2016(under review).
ACHIEVEMENTS	<ul style="list-style-type: none">• Ranked 3rd in department of strength of 88 students, graduating batch of 2017.• Awarded the prestigious Research Fellowship for summer 2016 under Indian National Academy of Engineering (INAE) Mentorship Program.• Recipient of undergraduate research grant by Technical Education Quality Improvement (TEQIP) Cell, NIT Patna.• Secured 98.65 percentile at All India level in JEE Mains 2013 among over 1,400,000 students.• Recipient of FITJEE Talent Reward scholarship 2012, an all India competition conducted by FITJEE (private firm).

COURSE AND SIDE PROJECTS	<p>For codes and details of projects, please visit: https://github.com/Akash1684</p> <ul style="list-style-type: none"> • AKA-shell : A naive implementation of LINUX shell in C. It demonstrates how a shell works i.e. read, parse, fork, exec and wait. Built-in commands includes cd, help, exit, hist. Project was done as part of Operating System course, under Prof. J.P. Singh, NIT Patna. • Timex- A chrome extension : It keeps track of surfing time, when extension is accessed time spent along with random quote is displayed. Project was done as part of Web Technology course, under Prof. Kumar Abhishek, NIT Patna. • Tweete (Twitter Handler) : Tweete is a desktop application designed in JAVA that provides interface to interact with Twitter account using Twitter4j API. Presently, Tweete have three features: Update Status, Send Direct Messages and Retrieve Previous Tweets. • pyBuzz : A python script that sends weather forecast summary along with word of the day to mobile phone on system startup. Dependencies includes BeautifulSoup, Twilio, Urllib and Forecastio. • Shut-it-Down : A desktop application that automates the scheduling of system shutdown (Windows Users). Designed using JAVA Swing and implemented using System Calls. • File Encryption and Decryption using cipher class : A console based Encryption and Decryption application developed in JAVA. This project was done during Summer Training at Hewlett-Packard (HP) nodal center, India, 2014.
TECHNICAL SKILLS	<ul style="list-style-type: none"> • Languages : C , C++ , JAVA , Python, X10 • Back-ends : MySQL , Oracle • Platforms : Linux , Windows • Web Technologies : HTML , CSS , JavaScript , JQuery • Tools / Frameworks : CUDA , MATLAB , Netbeans , Dreamweaver, L^AT_EX
COURSES UNDERTAKEN	<p>Introduction to Computing, Object Oriented Methodology, Data Structures and Algorithms, Design & Analysis of Algorithms, Operating System, Database Management Systems, Web Technology, Computer Networks, Computer Organization & Architecture, Data Mining*.</p>
WORKSHOP AND ADDITIONAL COURSEWORK	<ul style="list-style-type: none"> • L^AT_EX Workshop : A workshop on the basic use of L^AT_EXtool and its application in various fields of science and research, conducted by IIT Bombay, India. • Linux OS and Shell scripting : Workshop focuses on the introduction of Linux and its development, conducted by RedHat Corporation at NIT Patna. • Design and Analysis of Algorithms: An online course provided by Dept. of Computer Science, Chennai Mathematical Institute (CMI).
OTHER ACTIVITY AND RESPONSIBILITY	<ul style="list-style-type: none"> • Coordinated and conducted various coding event for students, at annual college technical fest Corona, conducted by Dept. of Computer Science, National Institute of Technology Patna. • Volunteer at Sankalp (Oct 2013 - Feb 2014): The members of this group teach students of the financially weaker sections of the society. Hundreds of students from nearby slums come to study here every day.