Ashish Kedia

ashish1294@gmail.com • +91 9986978059 • #C501, Mega Tower 1, NITK, Mangalore, India

EDUCATION	**B.Tech in Information Technology, Senior Year**	2012 - 2016

National Institute of Technology Karnataka, Surathkal, India
- CGPA of **9.47**/10 (Dec 2015)

High School - Birla High School, Kolkata (CBSE) - 92.4%   2010 - 2012
Secondary School - Nopany High, Kolkata (WBBSE) - 85%   2000 - 2010

EXPERIENCE

Software Engineering Intern, Google, San Francisco   May, 2015 - July, 2015
Worked with the Cloud Datastore Team to create a sample application that demonstrates the best practices to use datastore. The django application uses NDB API and will help programmers acquainted with relational databases to model and build a scalable application with datastore. The application is accompanied by a blog post that discusses several design patterns that the application developers might encounter.

Software Engineering Intern, SimpleWealth, Bangalore   Dec, 2014
Designed and Implemented cloud data synchronization mechanism between Android clients and Rails-based server. Optimization for slow and erratic network included data compression and batching of network, I/O operations. Implemented an efficient sync scheduling algorithm to save power and ensure fault tolerance. New method was found to be 36% faster and consumed 23% less bandwidth.

Summer Research Intern in Fundamental Research Group, IIT Bombay
Mentored by Prof. Deepak B Phatak, Dept. of CSE, IIT Bombay   May, 2014 - July, 2014
Developed algorithms for User-Modeling, Content-Modeling and Adaptive Engine on EdX. Implemented semi-automatic concept mapping, recommendation algorithms like collaborative filtering, Pearson coefficient, deviation method and artificial ant colony method. A Persiva-like system evaluation model was also implemented. 78% users found it helpful and average course completion time was reduced by 30%

Summer Trainee, Globsyn Finishing School   May, 2013 - July, 2013
160 hrs of training in Web Development(PHP, HTML5, CSS3, MySQL, JQuery, Bootstrap) and Android Application Development.

TECHNICAL
SKILLS

Strongest Areas - Databases, Algorithms, Parallel Programming
Languages - C, Python, Java, C++, PHP, Shell Script, JS
Tools/Frameworks - Django, JQuery, STL, LaTeX, MySQL, SQLite, OpenMP, OpenGL, MPI, BLAS, Git

PUBLICATIONS

- Devanshu J, **Ashish K**, Rakshit S, Sameer S, "Recommendation Techniques for Adaptive E-learning", Advances in Computer Science and Information Technology, vol. 2, No. 1, 2015. view here

- **Ashish Kedia** and Anusha Prakash, "Data Synchronization on Android Clients", International Conference on Communication Software and Networks, June 6-7th, 2015, Chengdu, China. view here

RELEVANT
COURSES

Data Structures and Algorithms, Operating System, Computer Graphics, Unix Programming, Advance Computer Networks, Databases, Automata Theory, Parallel Computing, Distributed Computing, Information Security, Human Computer Interaction, Software Engineering

SELECTED
PROJECTS

All projects available on git : https://www.github.com/ashish1294
- **DFC Query Builder** : A mini-scale Database Engine using C. Features include buffer management, Query Optimization, Indexing using B+ Trees, Temporary Tables, Batching, Custom block size and GUI (web based) Query generator in PHP which communicates with DB server in C++ using sockets.

- **Storage Engine for RDBMS** - Developed a new graph-based storage model for Relational Databases that can perform join queries in linear time. The time for aggregate queries also varies linearly with size of result set. Sample implementation in C++ where data was stored in-memory.

- **Web Service Retrieval** : Wrote scripts to crawl, extract and index over 1000+ service description (OWLS) files. Used interface information to build a search engine that compares 7 categories of keywords. Used NLP techniques on text description find semantics and search services via context matching.

- **Chess Game** : A GUI based Chess game in JAVA for two players that implements all major OOP Concepts. Techniques like backtracking and Greedy Approach was used to determine possible moves. Files were used for storing statistics.
- **Galaxian** : An OpenGL based classic 2D shooting game in C++. Features include collision detection algorithms, double buffering to provide high FPS flicker-free 2D animations, mouse controls, hot keys and space simulation. Statistics and settings stored using files.
- **TAJ Defender** : A sand-boxing mechanism for C and C++ codes using SEACOMP to prevent system calls. Features include custom malloc() using mmap, Resource-time & time-limit for code execution
- **Konnect** : A mini-scale TCP/IP stack for file transfer from one system to another system over a network using C. Features includes headers of all 4 Layers, CRC error check, TCP Handshaking and flow control.
- **FLINT** : Open-Source Contribution to FLINT (Fast Library for Integer Arithmetic) involving algorithms for Matrices over finite field - Patterson Stockmeyer Algorithm, Matrix Squaring, Level 3 BLAS in Matrix Multiplication and benchmarking results of all optimizations.
- **Digital Passbook** : An Android App to keep track of all transactions across multiple bank accounts.
- **Online Banking** : Uses PHP and MySQL - Transaction Management, Loans, Cheque, Fund Transfers.
- **SGC APP** : An android application for Star Gazing Club, NITK - Included a digital magazine reader.
- **CodeChef Code Now** : A chrome extension to instantly open up user's favorite IDE directly from the problem page on CodeChef, SPOJ or CodeForces. Uses chrome Native Messaging.
- **Drive Assist** : An app that uses Kinect v2 for Windows to detect if driver is drowsy using facial features.

ACHIEVEMENTS AND AWARDS

- Selected for prestigious *Kishore Vaigyanik Protsahan Yojana* Scholarship in 2012
- Selected for Mitacs Globlink Research Intern Scholarship in Canada
- Selected for DAAD WISE Scholarship for Research Internship in Germany
- Runners Up in Microsoft's 24-hr National Hackathon - Code.Fun.Do, Best Design Award
- Most tech savvy idea - Quik View (Data Visualization App) in Quikr Hackathon, 2015
- Selected of ACM ICPC Amritapuri Onsite Nationals in 2013, 2014
- 4th in India in IEEE Xtreme 7.0 - 24hr Coding Contest
- National Finalist in Mathematics and Cyber Olympiads
- Active participation on online competitive coding websites - CodeChef, Spoj, TopCoder, CodeForces, etc. Member Handle - ashish1294
- Convenor (Head) of Web Enthusiast's Club, NITK
- Joint Convernor of Computer Science Events, Engineer 2015 - Tech Fest of NITK, Surathkal

HOBBIES   Competitive Coding, Watching Documentaries, Star Gazing, Editing Wiki Pages, Solving Puzzle

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