

Ashok Kumar P

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Technically Versatile and Enthusiastically Competitive

Work Experience: iPhone App Development, Node.js, Odoo (OpenERP), Flask, Kivy, NumPy, C, C++, Objective-C, Swift, Python, Web Server, Linux, Algorithms, XMPP, HTTP, FastCGI, GNU Toolchain, Multithreading, Debugging, Data Structures, Image Processing, Problem Solving

Total Work Experience: ~4 Years

Summary

- ❖ Working experience with programming languages **C, C++, Python, Objective-C, Swift**
- ❖ Working Experience with **Odoo (OpenERP), OpenCV, kivy, NumPy,**
- ❖ Implementation experience on using low level **multithreading**
- ❖ Experience in using **GNU toolchain**
- ❖ Working experience with Debugging/Memory Analysis using **valgrind, Xcode Instruments**
- ❖ Experience on **Compilation, Linking, Debugging, Library** creation
- ❖ Experience on project build tools **SCons, CMake, Make, Shell** scripting
- ❖ Have used version control systems **Git, Mercurial**
- ❖ Experience on **HTTP, XMPP protocol, web server architecture**
- ❖ Experience on **Image Processing**
- ❖ Strong knowledge and experience on **Xcode Storyboard, Auto Layout**
- ❖ Have used **design patterns** during development
- ❖ Ability to work as a team and organise a **team**
- ❖ Ability to **learn new technologies and adapt to it**
- ❖ Excellent **problem solving ability**
- ❖ Strong knowledge on Object Oriented Designs

Professional Experience

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|---------------------|--|
| Nov 2016 - Present | <i>Self-Employed – Freelance Software Consultant</i>
iPhone/iPad Application development, Odoo (OpenERP) development, Node.js, Website |
| Jan 2016 - Nov 2016 | <i>Ajax Media Tech Pvt Ltd, Chennai – Senior Programmer Analyst</i>
iPhone/iPad Application development, Odoo (OpenERP) development |
| Dec 2013 - Dec 2015 | <i>ColumbusAgain, Chennai – Software Engineer</i>
iPhone/iPad Application development and deployment, Image processing, Objective-C, C, C++, Python. |

Professional Projects

- Feb 2016 - [Ajax Media Tech – Project Management System](#)
Nov 2016
- Project Management System for Ajax Media Tech that lets the employee record their time spent on various issue, create tasks, assign issues, managerial reports
- Responsibilities:* Team Lead, New Feature Development and Implementation
- Technologies/Tools Used:* [Python](#), [Odoo](#), [PostgreSQL](#)
- Feb 2016 [Ajax Media Tech – Business Intelligence – IOS App](#)
- An IOS App for the private use of Managing Director and Project Manager that let the user to access the Google Analytics of various IOS, Android Apps developed in Ajax Media Tech.
- Responsibilities:* IOS APP Architecture Design, Initial Implementation
- Technologies/Tools Used:* [Objective-C](#), [Auto-Layout](#), [OAuth](#), [Google Sign-in SDK](#), [Google Analytics Core Reporting API](#), [IOS-Charts](#)
- Jan 2016 - [News7 Tamil – IOS App – AppStore](#)
Feb 2016
- Bug Fixing, New feature implementation
- Responsibilities:* Development, Bug Fixing
- Technologies/Tools Used:* [Objective-C](#), [Auto-Layout](#), [OAuth](#), [Twitter](#), [Google Sign-in SDK](#), [Facebook SDK](#)
- Oct 2015 - [Lavishh – IOS App – AppStore](#)
Dec 2016
- A dating app for successful men and attractive women based on U.S.
- Responsibilities:* Development, Bug Fixing, App Store Release
- Technologies/Tools Used:* [Objective-C](#), [Quick Blox](#), [Auto Layout](#), [OAuth](#), [Instagram](#)
- Jul 2015 - [SpotUrTrain – IOS App – AppStore](#)
Dec 2016
- An app that lets the user know the status of trains in Indian Railway.
- Responsibilities:* Design/Development of whole app (client side), Server Architecture research, App Store submission.
- Technologies/Tools Used:* [Objective-C](#), [Auto-Layout](#), [Google Sign-In](#), [Google Analytics](#), [Google App Invite](#)
- Oct 2015 [SmartSlips – IOS App](#)
- An app that can crawl your emails and provide a statistics report regarding your purchase at ecommerce sites.
- Responsibilities:* Bug Fixing, Migrated the client to point to a new server
- Technologies/Tools Used:* [Objective-C](#), [OAuth](#), [Google Sign-In](#)

Apr 2015 -
Nov 2015

[Novel Movies – IOS APP – AppStore](#)

Analyses a book cover image taken from a client (Mobile App), if the book has been made into movies in Hollywood then redirects the user to the movie info and its YouTube Trailer.

Responsibilities: Improved UI, Fixed Camera and other bugs, AppStore Release

Technologies/Tools Used: [Objective-C](#), [App Distribution](#), [Auto Layout](#)

Nov 2014 -
Jul 2015

[Baxder – IOS App](#)

Baxder is an IM App with features including Messaging, Alert Words, Blips, Timer, etc.

Responsibilities: Architecture Design and Development from scratch (client side).

Technologies/Tools Used: [Objective-C](#), [SQLite](#), [XMPP](#), [XMPFramework](#), [App Distribution](#)

Mar 2014 -
Nov 2015

[Novel Movies – Backend Core](#)

Analyses a book cover image taken from a client (Mobile App), if the book has been made into movies in Hollywood then redirects the user to the movie info and its YouTube Trailer.

Responsibilities: Architecture Design and Implementation.

Technologies/Tools Used: [C++](#), [OpenCV](#), [NGINX](#), [FastCGI](#), [Python](#) (for testing), [Supervisord](#), [Multithreading](#)

Aug 2014 -
Nov 2014

[TouchPoint](#)

Object tracking, lets a user to track objects that he marked in a video frame.

Responsibilities: Architecture Design and Development from scratch.

Technologies/Tools Used: [C++](#), [OpenCV](#), [Multithreading](#), [Python](#) (for testing)

May 2014 -
Aug 2014

[Carpet Visualizer – Mobile APP](#)

A Desktop/Mobile app which lets the user preview how their house floor would look with a particular carpet they are willing to buy.

Responsibilities: Architecture & UI Design, Development, **Ported OpenCV for Android to work with kivy**

Technologies/Tools Used: [Python](#), [NumPy](#), [kivy](#), [OpenCV](#), [Google Material Design Guidelines](#), [Multithreading](#)

Dec 2013 -
May 2014

[Augmented Reality – News Paper Advertisement](#)

Analyses the newspaper image taken from client's camera and redirects user to relevant information if any advertisement found. Written the back-end core (C++), a server (C++) which automatically balances incoming traffic based on hardware concurrency.

Responsibilities: Architecture Design and Implementation.

Technologies/Tools Used: [C++](#), [OpenCV](#), [NGINX](#), [FastCGI](#), [Multithreading](#), [Python](#) (for testing), [Supervisord](#)

Educational Qualification

COURSE	INSTITUTION	AUTHORITY	COMPLETED		% CGPA
P.G	Anna University (MIT), Chennai	Anna University, Chennai	APR	2014	7.43
U.G	MEPCO Schlenk Engg College	Anna University, Chennai	APR	2012	8.03
H.S.C	Valliappa Vidhyalayam	TN State Board	MAR	2008	93.25
S.S.L.C	Valliappa Vidhyalayam	TN Matriculation	MAR	2006	89.91

Academic Background

Computer Science: Computer Architecture, Operating Systems (UNIX), Data Structures, Parallel Computing, Algorithms, Cloud Computing, ...

Programming Languages: C, C++, Python, MATLAB, AVR Assembly, PIC Assembly, HTML & CSS, Verilog, HDL, ...

Image Processing: Frequency Analysis, Edge Detection, Optical Flow Analysis, Segmentation, Classification, Wavelets, ...

Signal Processing: Fourier Analysis, Wavelet Transform, Laplace Transform, Z Transform, Harmonic Analysis, Digital Signal Processing, ...

Electronics: Circuit Design and Analysis, PCB Design, Microcontrollers (PIC & AVR), Microprocessors (8086, Z80), FPGA, Verilog, ...

Post-Graduation Course Details

Discipline	M.Engg. Computer Science and Engineering
Classification	First Class
Average Aggregate (CGPA)	7.43
History of Arrears	Nil
Research Projects	Fault Tolerance in Multi-Core Processors
Electives Studied	Cloud Computing Soft Computing Ethical Hacking and Digital Forensics
Duration	2012-2014

Under-Graduation Course Details

Discipline	B.Engg. Electronics & Communication Engineering
Classification	First Class
Average Aggregate (CGPA)	8.03
History of Arrears	Nil
Research Projects	Traffic Monitoring and Control Using Image Processing
Projects	1. Dynamic Encryption and Decryption 2. LCF Meter 3. Adaptive 1D Run-Length Encoding

Electives Studied	Numerical Methods Cryptography and Network Security Internet and Java Digital Image Processing Embedded and Real Time Systems Optical Networks
Duration	2008-2012

Academic Research

- 2013 - 2014 *Fault Tolerance in Multi-Core Processors*
Implementation of Fault-Tolerance in commercially available desktop processors with little or no hardware change.
Anna University (MIT Campus), Chennai, India
- 2012 *Traffic Monitoring and Control using Image Processing*
Monitoring of Traffic using optical flow along the route leading to the tracking and classification of the vehicle, computation of its speed, direction of travel and vehicle number detection.
Mepco Schlenk Engineering College - Anna University, Chennai, India

Computer Skills

OS Platforms	Linux/Unix (Debian , Red Hat , ArchLinux , etc.), Windows
Programming	C/C++, Python , Objective-C , AVR , PIC
IDE	XCode , Netbeans , PyCharm , Dev C++ , Eclipse
Documentation Technologies	HTML & CSS, XML
Tools	CMake , SCons , vim , Sublime Text
Frameworks	Kivy , NumPy , OpenCV , Odoo
Scientific	Matlab , Eagle , Multisim & Ultiboard
Version Control System	Mercurial , Git & GitHub

Hobby Projects

- 2015 - present *Wooden Computer/Electronics Work Bench*
Highly customized wooden work bench of two meters long, using Mortise and Tenon, Dovetail, interlocking frames to prevent shrinkage and expansion.
- 2015 *Wooden Shoe Stand*
Made a Wooden shoe stand completely using sliding Tenon joints. Screws were submerged into the wood to get a classic finish.
- 2013 *Lead Acid Battery Desulphator*
Designed Lead Acid Battery desulphator to rejuvenate batteries that have lost its capacity by over time due to deposition of sulphates on electrodes

- 2012 *Intelligent Lead Acid Battery Charger*
Designed Current cum Voltage controlled Lead acid battery charger with quick switch over upon power failure. The circuit powered my Asus RT N13U B1 Router, Music Player, etc.
- 2012 *Adaptive 1D Run-Length Encoding*
Compression of binary image using 1D Run-length encoding. The encoding is adaptive whose word length is dictated by the property of the image under compression.
- 2011 *Lithium Battery based Emergency Light*
Designed Li-Ion Battery charger cum protection circuit and designed an emergency light that gave approx. 36Hrs Backup.
- 2010 *Dynamic Encryption and Decryption (DYED)*
A dynamic encryption algorithm to encrypt message streams in multiple levels with each level being visualized as a rotating cylinder (inspired by German's Lopez Cipher) whose speed is dictated by a combination of arriving message, provided key and previous ciphered data.
- 2009 *LCF Meter*
Calculation of Inductance & Capacitance using the transient property of Inductor and Capacitor respectively, frequency using incremental counting. All the calculations are performed using discrete ICs.

Languages

Tamil	Native
English	Professional Working

Hobbies

Reading English Literatures, Writing, Listening Music, Designing Electronic Circuits, Wood working, Learning, Creating and Tweaking things etc.