

4500 Chestnut Street, Unit 102,
Philadelphia PA 19139.

Tel: 215-960-8611

Mail: jacobva@seas.upenn.edu

LinkedIn: <https://goo.gl/oUuKqt>

Website: www.JacobVarghese.me

GitHub: [JacobVarghese1992](https://github.com/JacobVarghese1992)

Jacob Varghese

Summary

- Second year Master's student graduating in May 2018 with prior experience working as a technology consultant at Deloitte for two years and as an Intern at Google for the summer of 2017.
- Proven track record of managing and leading a complex product from design till delivery at Deloitte.
- Strong technical skills with previous experience in Software Engineering, Web Development, Big Data, Machine Learning and Distributed Systems.

Education

Master of Computer and Information Technology - MCIT (GPA: 4.0/4.0)

August '16 - May '18

University of Pennsylvania, Philadelphia

Related Course Work

Software Systems, Big Data Analytics, Database & Information Systems,
Programming for the Web, Data Structures and Software Design, Introduction to Computer Systems

Bachelor of Technology (GPA: 8.93/10.00)

August '10 - May '14

Electrical and Electronics Engineering

National Institute of Technology, Karnataka, India

Work Experience

Google, California

May '17 - present

Application Engineer Intern

- Leveraged Google technologies to develop an internal web portal for Google Finance Works team to streamline existing security filter's modification process using.
- Optimized performance and scalability of application and backend to integrate with other tools that require the security configuration.
- Improved overall efficiency of the current pipeline by creating a user friendly interface and reducing the manual intervention involved.

Deloitte Consulting LLP, India

August '14 - July '16

Business Technology Analyst

- Part of two successful project cycles including design, implementation, testing and delivery phases for clients in the textile and pharmaceutical industries.
- Developed web applications that directly impacted the client's business and reduced supply chain workflow times to less than 10% the of original.
- Led a team of developers to design, develop and test web apps to ease Deloitte's recruitment availability tracking process using SAP's proprietary web stack.
- Improved the earlier manual recruitment workflow which translated to 4x participation from employees in the recruitment process.

Product Management Roles

Convener: Technites, Engineer '14

December '13 - February '14

Lead a team of 25 engineering students at National Institute of Technology, Karnataka India to build multiple innovative projects (25ft * 25ft LED wall Tetris game) over the course of three months.

Joint Convener: IEEE NITK Chapter

December '13 - May '14

Lead a team of IEEE student members to develop applications and systems deployed at two blind schools in Karnataka. Receive accolades and recognition from the local governing bodies.

Technical Projects

Distributed Cloud Service (Google Apps clone)

March '17 - May '17

- Implemented distributed cloud services that support multi-user authentication, a webmail service with causal ordering, a documents storage service and an admin console to troubleshoot, start and stop running servers.
- Incorporated replication and a primary based sequential consistency with fault tolerance using deterministic playback of a persistent log file for redundancy in the backend.
- Simulated a distributed Google Big Table data store and developed all the servers and monitors in C++ including the frontend HTTP servers and the backend data service servers.
- Used gRPC and proto3 to communicate between the backend and the frontend servers. Frontend servers responded to HTTP requests via TCP and the RFC2616 standards.

Secure patient/provider web portal (www.MedimailHub.us)

October '16 - December '16

- Developed a web application that provides a portal for physicians to provide consultations to patients and other physicians remotely.
- Built secure messaging, document and reports sharing and video chat (OpenTok API) features that strictly adheres to HIPAA laws.
- Utilized Angular2 for the frontend and MySQL for the database. Built the application layer on NodeJS. Servers were hosted on AWS.
- Implemented push notifications using Firebase Cloud Messaging. The app is highly optimized for mobile browsers.

PennSkype - A peer to peer Skype clone

November '16 - November '16

- Built a peer to peer Skype clone in Java for video calls over the same network.
- PCA based image compression was implemented using the Java Math(JAMA) library to reduce latency in data transmission.
- Transmitted the compressed data between IPs with socket programming.
- Handled concurrency for simultaneous transmission, compression/reconstruction, and display with threads.

Lung nodule detection for cancer prediction

March '17 - May '17

- Utilized K-means for segmentation on lung CT scans from the LUNA16 Dataset.
- Trained a U-Net architecture based Deep Neural Network model to learn and identify cancer nodules present.
- Testing and validation showed an accuracy of 82%.
- Implemented the model in Python, using UNETs with 2D CNNs on Keras with a Tensorflow backend.