KARAN BALAKRISHNAN

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LinkedIn Profile | GitHub Profile | Personal Website

EDUCATION

University of Southern California, Los Angeles, California — Graduating December 2018

Viterbi School of Engineering

Masters in Computer Science

BMS Institute of Technology, VTU, Bangalore, India — June 2014

Bachelor of Engineering, Computer Science

TECHNICAL SKILLS

Languages & Databases: Objective-C, Swift, Python, JavaScript, Java, SQL and MongoDB

Technologies & Frameworks: AngularJS, NodeJS, XML, JSON, REST APIs, Bootstrap

Development Tools & Frameworks: Git, Jenkins, Agile, Perforce, JIRA, Maven, Scrum

PROFESSIONAL EXPERIENCE

Developer Associate (Front End Mobile Developer) at SAP Labs, India — June 2014 – November 2016

https://itunes.apple.com/us/app/sap-businessobjects-mobile/id441208302?mt=8 — **2 years 6 months**

- Implemented and integrated various features into the existing SAP BI Mobile application (~200,000-line code base) using **Objective-C and Swift** extensively
- Built a custom charting framework from scratch using **Core Graphics**
  - Built to handle millions of rows of data, with custom lazy loading pagination and custom gestures
- Implemented **Custom Animations** for scroll, loading and notifications
- **Customized Gesture support** to handle JavaScript and iOS interaction – to handle hybrid content in the application
- **Performance and Memory optimizations** for various features
- Used **Git, Perforce, JIRA and Maven** to collaborate with my team of 35+ members

PERSONAL PROJECTS

- **Personal Website -** https://hitmank.github.io/
- **Space Commute (Swift):** https://itunes.apple.com/us/app/space-commute/id1238983610?mt=8
  - iOS game available on the app store
  - Built with Swift using iOS SpriteKit

ACADEMIC PROJECTS

- **Facebook Search (JavaScript, Swift, PHP, Bootstrap, AWS):**
  - Built a custom Facebook search application using Facebook Graph API. Pulled recent posts and albums of users, groups, events, etc. AWS backend – built with PHP
  - Two versions of the front-end: Web - Built using AngularJS, Bootstrap and iOS - **Built with Swift**
- **Collaborative Filtering Based Recommender System (SPARK)(Scala):**
  - Built a Model Based and Item Based Recommender system that used a Hybrid Algorithm, which gave recommendations to users based on their purchase history and features of each item.
  - Built on Apache Spark using Scala
- **Frequent Items – SON Algorithm (SPARK)(Scala):** Implemented the SON algorithm using Scala on the Spark environment
- **Adversarial Constraint Satisfaction by Game-tree Search (Python):** Minimax algorithm with Alpha-Beta Pruning
- **CYK Parser for probabilistic context free grammar (Python):** Built for the Natural Language Processing class. Achieved 0.88 F1 score

AWARDS

- **Vice-President award -** Awarded for outstanding contribution towards the development of the native iOS Charting Framework
- Awarded six team level spot awards for contribution to various releases