Prateek Kumar

(213) 245-8953 | p2401kumar@gmail.com | LinkedIn | GitHub | Website

EDUCATION

Master of Science in Computer Science	**January 2021-December 2022**
University of Southern California	3.9/4
Bachelor of Technology in Computer Science	**August 2013-May 2017**
Indian Institute of Technology, Dhanbad, India	8.75/10

SKILLS

- **Programming Languages**: C, C++, C#, JAVA, Kotlin, Python, MATLAB, JavaScript, Ruby, Django, Go,
- **Web Development**: HTML, CSS, JavaScript, PHP, Flask, Angular, Ajax, jQuery, Bootstrap, WordPress
- **Databases:** MySQL, No-SQL, PostgreSQL, Oracle-DB, Redis
- **Frameworks**: Android, Linux, GIT, Perforce, OpenGL, Keras, Scikit-Learn, TensorFlow, Google Cloud Platform, AWS, NLP
- **Certifications**: Neural Nets, Improving NNs, Building Deep Learning Applications with Keras 2.0

WORK EXPERIENCE

Software Intern at MathWorks, Remote　　　　　　　　　　　　　　　　　　　　**May 2022–Present**

- *Web Infrastructure Modeling Team***:** Optimizing Web-Matlab during low bandwidth situations. Also Tasked with optimizing and debugging Testbed written in C++, and drafted algorithms to run JavaScript tests faster.

Senior Software Engineer, Samsung Research and Development　　　　　　　　　　**June 2017–December 2020**

- *Notification Framework*: Created and documented Samsung Smartthings Notifications Platform. Module facilitated users obtain alerts from smart device pushed from cloud. Gained Proficiency: **Android, AWS, REST, MY-SQL JAVA, Kotlin.**
- *Android Binary File (APK) Size Reduction*. Improved App-rating from 3.8 to 4.5 by addressing Voice of customer about application high space consumption. Drafted a research paper and scalable automations tools containing smart algorithms to reduce Memory consumption of any Mobile APK. Skills: **C++, JAVA, LINUX, Shell-scripting, Problem-solving**
- *RTSP/RTP plug-in*. Upgraded Google's Android library that supported 1-server-1-client network Protocol to support 1-Server (RTSP)-Multiple-Client, with maximum throughput, sync & low-latency. Skills: **C++, Java Native Interface (JNI)**
- *Contextual Widget*: Collaborated and Mentored interns that prototyped and developed efficient framework to make phone Notifications smart by taking help from IOT context and suggests IOT actions. Feature is now Live on Samsung S21. Augmented brand value for Samsung Mobiles. Skills: **JAVA, C#, Kotlin.** Feature was later patented by Samsung.
- *Smart-things Continuity Recommendation*: Led a team to develop module which provides smart and seamless Multimedia experience even when you change your room using Smart Strategies. Resulted in Augmentation of brand value for future Ambitious Samsung products. Skill Gained: **TensorFlow**, **Scikit-learn, Machine Learning, Distributed Computing, Linux/Unix**

Web-developer Intern, IIT-Dhanbad　　　　　　　　　　　　　　　　　　　　　**May 2016–July 2016**

- *Venue Booking Module*: Created Web based Venue Booking Application to book a venue within a campus, with custom workflow for each venue, with payment gateways. Created Modules using **Ajax, PHP, Nodejs, HTML5, CSS, MY-SQL, Cloud**

ACADEMIC PROJECTS

- **Speech recognition:** Speech recognition using Math and limited processing power systems, like Arduino
- **Matrox (Robotics Project)**: A robotic arm that moves in 2D, plays real chess with a human opponent. Magnetic sensors were used to determine chess movements made by human player, and arms move the chess pieces, Skills: **Robotics**
- **Checkers Game**: Crafted a checkers agent which can look ahead 10 steps in time and play checkers' game.
- **Sentiment Analysis on comments**: Created a module which classifies comments as positive or negative. Skills: **NLP, NLTK.**
- **2D Game Unity & 3D using OpenGL**: created 2D game using Unity and 3D game world development using OpenGL.

PUBLICATIONS

- **PAPER:** Paper presentation for Android Lint Tool optimization – proposed an optimized algorithm to reduce Android application size, by finding dead code and unused resources, that takes about 30% less time than classic Lint tool.
- **PATENT**: Produced an IOT patent on Automated position and latch locking control mechanism using mobile apps 2016
- **PATENT**: (GRADE A1) Intelligent Room Identification in IOT Environment using Device Type Watermarks (2020).

HONORS AND AWARDS

- *Samsung CITIZEN Award (2019)*: For taking App Store rating from 3.5 to 4.5. **Android APK Size Reduction**
- *Samsung SPOT Award* **(2017)**: for work on IOT client app Smartthings, for project *Notification Framework.*
- *Samsung SPOT Award (2018)***:** for works in RTSP streaming framework. *RTSP/RTP plug-in*.
- *Samsung SPOT Award (2020)*: Conferred for augmenting features to Smartthings for project *Contextual Widget*