Yogesh Chellappa Chockalingam

yogesh20101993@gmail.com
ychellappa.com

Research Interests

Computer Vision, Machine Learning, Object Detection and Tracking, Virtual and Augmented Reality

Education

May 2015	**PES Institute of Technology**, Bangalore, India *Bachelor of Engineering, Computer Science* **GPA**: 9.21/10 | **Major GPA**: 9.46/10 **Thesis**: Driver Fatigue Detection System

Work Experience

Feb 17 - Present	**Software Engineer II, Intuit India Product Development Centre**, Bangalore, India Working on TurboTax Desktop, Universal Windows Platform.
Aug 15 - Jan 17	**Software Engineer I, Intuit India Product Development Centre**, Bangalore, India Worked on Intuit's flagship product, TurboTax Desktop, on both MacOS and Windows platforms. Designed and implemented key features including providing the users with relevant tax related information as they prepared their tax return, integrating a crash reporter with the product, amongst many others. Helped reduce the number of crashes by roughly 60% over the period of a year.
Jan 15 - Jun 15	**Intern, Intuit India Product Development Centre**, Bangalore, India Import business and financial data from QuickBooks Online into TurboTax Business, thus jump starting a tax return. This helped reduce the time spent on preparing a tax return by 30 minutes.
Jun 14 - Jul 14	**Intern, GE Healthcare**, Bangalore, India Built a system, based on OpenCV to track patients in the hospital ward to detect if the patient has left the safety of the bed. The system aggregated multiple WebRTC based live video streams from the monitoring cameras onto a Karaf web container, split the video stream into frames and applied background subtraction to track the patient. Attained an accuracy of about 63%.

Research Publications

August 2016	**Driver Fatigue Detection System** Proceedings of 2016 IEEE International Conference on Signal and Image Processing.

Teaching

Aug 14 - Dec 14	**Teaching Assistant, Mobile Systems Engineering**, PESIT, India Held lectures for about 100 undergraduate students and helped the instructor with coursework.

Skills

Languages	Python, Java, C#, JavaScript, PHP, Objective C
Databases	SQL, MongoDB
Tools	OpenCV, MATLAB, TensorFlow, Scikit-learn

PROJECTS

Jan 15 - May 15	**Driver Fatigue Detection System** Developed a system using OpenCV to detect fatigue in drivers, based on physical and physiological symptoms and trigger an alert. The system combined multiple methods of detection: eye tracking and blink detection, yawning detection and data from somatic sensors. Physiological symptoms monitored include pulse rate and core body temperature. The system achieved an accuracy of 80.55% with sub-second alerts being sounded through the vehicle's audio system.
May 16 - Jun 16	**Import tax data by extracting information from a picture of the Form W2** *Intuit* Enabled import of Form W2 information into TurboTax desktop app, by enabling the user to snap a picture of the W2, performing OCR, and seamless transfer of information from the phone to the desktop product. Scanning a QR code was employed, for establishing a handshake and subsequent session.
Oct 14 – Nov 14	**Sudoku solver in Haskell** Developed a Sudoku solving brute force algorithm in Haskell to explore functional programming. The system takes in a partly filled grid of cells containing numbers in the range of 1 to 9. Blank cells are filled by obtaining the intersection of possible values the cell can take based on its row, column and the 3x3 box. In case multiple values are possible for a cell, a new grid is created with each possible value and added to a queue. This approach is recursively repeated for other cells until a valid solution is obtained or a constraint is violated. In the latter case, a new grid is popped from the queue.
Aug 14 - Nov 14	**Market – An App to compare Apps** Developed a web application to compare Android and iOS apps across a particular used defined category. Information about popular apps in that category are pulled using APIs and analyzed and an overall score is obtained by computing the weighted average of several parameters including rating, minimum supported OS and number of downloads. Sentiment analysis was also performed on the reviews to accurately calculate the score.
Jan 14 - May 14	**Infra** Built a system using web sockets and Windows batch scripting to remotely control a Windows PC from an Android app. Once authentication was performed, the user can perform a wide range of actions including playing music, file operations, scheduling restarts, triggering downloads etc.
Aug 13 - Nov 13	**Context Based Facebook Newsfeed Analysis** Developed a system using Facebook's Graph API to send automated replies to all birthday wishes on the user's timeline. Initially, all the posts on the user's wall are obtained and each post is analyzed using regular expressions to see if it is a birthday greeting. An automated reply is then generated for the matching post, thanking the corresponding friend by name. Attained an accuracy of over 95%.

AWARDS AND RECOGNITION

- **Best Project** – Social Impact, Prakalpa, Intra-collegiate technical exhibition
- **Second Runner**, Harman International Hackathon 2016
- **Winner** – Intuit Hack-Utsav Hackathon 2016
- **Third Runner** – Myntra Hackathon 2016
- **Star of the Quarter**, Q4 2015 – Intuit
- **Second Runner** – JP Morgan Code for Good Hackathon 2014
- **Winner** – Intuit Hack-A-Bot Hackathon 2014
- **Top 5 Finalist** – SAP Labs Lumira Hackathon 2014
- **Top 3** – Ayana Hackathon 2014

EXTRA-CURRICULAR ACTIVITIES

Debating, quizzing, writing & blogging, and attending hackathons.