

Please find the 3 hr AI workshop details below which is part of the AI Summit :

Day 1 (14<sup>th</sup> December):

#of Events	Title	Abstract	Duration	Domain	Speaker/Presenter
1	A nutshell of Samsung Bixby Voice Assistant with live demo.	Bixby is the revolutionary on-board assistant that learns, evolves, and adapts to you. Each feature of Bixby is designed to make your life easier, whether it's through touch, type, or voice. Bixby seamlessly helps you get things done.	1 hr	AI	Dr.Vikram/Giridhar Jakki
2	An interactive session on Variable Sentence Length Intent Determination	Chatbot is getting huge popularity in User Community in recent times. Due to recent increase in user traction, Chatbot has become an inherent need for business community. Various business e.g. Finance, Retail etc. are creating their own Chatbot. To capture the market in a faster pace, building chatbot for a company is becoming necessary. That is why Chatbot building tools are becoming a part of business. Since there is an increase in trends for building chatbot in minimal time by using a Bot-builder tool by various business bodies, many people are getting involved in the creating the chat data. Most of the time, the people involved in these does not have any NLU experience. For many cases, the Bot-builder tool needs data for intent classification in chat. Majority of the scenario, the provided data is very less. We have come across various scenarios, where Bot-builder user has given less than five sentences per intent class. Most of the cases these sentences are very small in lengths (e.g 'cancel payment'). Once the Bot is out in market, the end-user can give the sentences of their own choice. Generally, the sentences from the end user are of various lengths and with high degree of variances, (e.g. 'I would like to cancel my ongoing payment request'). This becomes extremely hard NLP problem of classification. The major challenge is that the distribution of test and train are having different distribution. To solve this problem we have experimented with various state-of-art approaches. We will have an open discussion about the pros and cons of each of the R&D techniques. As well as we deep dive into the each R&D paths.	1 hr	NLU	Praveen

3	<p>a) A presentation on Hierarchical Accent Determination and Application in a Large Scale ASR System</p>	<p>In deploying Automatic Speech Recognition Systems (ASR) on a global scale, several challenges arise for supporting a widely used language such as English. The primary one among them is to deal with a wide variety of accents. We propose a Hierarchical Accent Determination system that deals with accent variations across large geographical regions at macro level and then the variations at the sub-regions within a selected large geographical region at micro level along with taking context cues. Eight accents [GB, US, Australian, Canadian, Spanish, Korean, Indian &amp; Chinese] are identified at macro level and accent-specific models corresponding to the identified accents are used. This is very useful to expand the approach to identify accents with significant variations found at subregional level in India such as Hindi, Tamil, Telugu, Malayalam, and Bengali.</p>	45 Minutes	ASR	Sandip Shriram Bapat
	<p>b) A live demonstration on CACTAS as a tool- Collaborative Audio Categorization and Transcription for ASR Systems.</p>	<p>CACTAS is a web based tool that allows collaborative analysis and/or transcription of audios with respect to Automatic Speech Recognition (ASR) systems. The tool presents a webpage consisting of audios and their corresponding references and hypotheses obtained offline. Several other information and features are provided that allow the audios to be categorized and references to be corrected efficiently in a collaborative way almost 10 times faster, without the need for prior knowledge on speech or ASR systems. The analysis can later be summarized and acted upon to improve or triage the ASR system.</p>	15 minutes		
4	Artificial Intelligence Quiz as a fun		Background event	Quiz	Even team

## Day 2 (15<sup>th</sup> December):

**Title:** Attacking modern IoT hardware by Abhijith Soman

### **Workshop Agenda:**

The workshop will provide an excellent opportunity for attendees to have hands-on experience on penetration testing of the Internet of Things devices.

We will be a briefing from "modern IoT device stack" to "post-exploitation techniques" in the context of IoT devices.

In the workshop, we will glance through,

- Modern IoT device stack

- IoT device categories

- Attack vectors

- Preparing test cases

- Successful pen test

- Post-exploitation

Most of these attacks/observations are based on what we observed during numerous in-house pen tests. Attendees will get to hack DIVA board [Damn Insecure and Vulnerable Application] which is an intentionally vulnerable IoT device, designed to teach the basics of IoT security.

### **Speaker Profile:**

Abhijith is a security researcher at Payatu Software Labs. His research interests lie in hardware, embedded systems and RFID security. He presented in c0c0n X 2017, BSides Dehli 2017 and also a co-trainer for Practical IoT Hacking training delivered in [hardwear.io](https://hardwear.io) Berlin 2018.

Abhijith used to build industrial access control systems, RFID/NFC readers, vending machines and connected devices in the past.