
Introduction to the Alexa Prize Proceedings

Prem Natarajan, PhD

Vice President, Amazon Alexa AI
premn@amazon.com

With the launch of Alexa in 2014, Amazon sparked a renaissance in conversational AI. Combining far-field speech recognition with state-of-the-art natural language understanding, Alexa captured the imagination of millions of users worldwide. All of them had discovered that speech is, indeed, the most natural of user interfaces! In the summer of 2015, the Alexa Skills Kit (ASK) was launched with the goal of democratizing access to conversational AI. Using ASK, a developer with no experience in speech recognition or natural language understanding could integrate existing web services with Alexa or even build entirely new experiences designed around voice. Subsequently, in the fall of 2016, Amazon announced the Alexa Prize Socialbot Grand Challenge - a competition for university students dedicated to accelerating advances in conversational AI.

Student teams competing in the Prize challenge use the Alexa Skills development environment to create socialbots that are capable of long, engaging, and entertaining conversations with humans. Not only does the Prize challenge provide funding to participating University teams, it also provides the teams with access to state-of-the-art speech recognition, natural language understanding, dialog management, language generation, and a whole host of other such technologies. Perhaps even more important is the fact that student teams build bots that directly engage with and learn from Alexa customers who engage with these bots and provide feedback – an experimental framework that many of us did not dare to even dream of when we were in graduate school! By providing all these resources, we sought to enable and empower student researchers to focus entirely on creating exciting new advances in conversational AI. As evidenced by the papers in this volume, we have clearly succeeded in that endeavor.

The Alexa Prize is now in its third year. During these three years, nearly forty university teams and hundreds of student researchers have participated in the Alexa Prize competition. Each of those students has experienced the excitement of seeing their research advances transition directly into customer experiences and they have benefited from the feedback that millions of Alexa customers who have engaged with these socialbots have given them. The collective efforts of these student teams and of Alexa customers have driven advances in dialog modeling, use of structured knowledge sources in dialogs, co-reference resolution, context modeling, sentiment detection, conversational grounding, and many more such subfields of conversational AI. All these advances inform and inspire the next set of research efforts in these areas, and in that sense, the Alexa Prize teams have helped create a rising tide that lifts all boats in the conversational AI ocean.

Each year, we celebrate the novel contributions of participating Alexa Prize teams by compiling the descriptions of the research efforts of each of the Prize teams into an annual Proceedings of the Alexa Prize. This edition of the Proceedings details the scientific

contributions of the teams that participated in the 2020 Alexa Prize competition. As with the 2017 and 2018 editions, I am sure you will find this version informative, interesting, and a rich source of ideas for future explorations in this area.

I am delighted to take this opportunity to offer my congratulations to all the participants of the 2020 Alexa Prize competition.

Prem