## Anjishnu Kumar

• 154 Tenison Rd, Cambridge, UK • +1-(314)-666-0397 • anjishnu.kr@gmail.com

.....

**EDUCATION** Columbia University in the City of New York

December 2014

Master of Science, Computer Science, Advisors: Michael Collins & Peter Belhumeur

GPA: 3.97/4.00

Birla Institute of Technology and Science, Pilani, India

March 2013

Bachelor of Engineering (with Honours) Chemical Engineering

**First Division** 

**SKILLS Primary Tools**: Python, Java, C, C++, Linux

Frameworks: Scikit-Learn, Keras, MxNet, AWS, Apache Spark, ElasticSearch, Android

Familiar With: MATLAB/Octave, R, Scala, JavaScript, SQL, HTML/CSS

**EXPERIENCE** Amazon Alexa – Applied Scientist II, Seattle & Cambridge (UK)

Feb 2015 - Onwards

 $Built\ the\ machine\ learning\ framework\ behind\ the\ Alexa\ Skills\ Kit\ (ASK)\ Voice\ SDK.\ Currently\ working\ on\ open$ 

domain question answering. 7 patents filed.

**The Huffington Post** – Data Scientist (Intern), New York, NY

September - Dec 2014

Architected a memory efficient state-of-the art opinion mining system using recursive neural networks.

Amazon - Research Scientist (Intern), Cambridge, MA

May 2014 - August 2014

Machine learning and probabilistic data structures for data compression. 1 patent filed.

Electronic Arts - Software Engineer (Intern), Hyderabad, India

January 2013 - June 2013

Built the Java backend infrastructure in to serve push notification advertising to Amazon's FireOS devices.

SELECTED

Software Project Portfolio: <a href="https://github.com/anjishnu">https://github.com/anjishnu</a>

PROJECTS Alexa Skills Kit Spoken Language Understanding Platform

Built the NLU Model building pipeline that powers the Alexa Skills Kit, my code has deployed over 25,000 spoken language understanding subsystems into production and serves as the foundation of a deployed **AWS** service – **Amazon Lex**. Tech lead for **skill invocation** and **skill discovery**.

## **Neural Zero-Shot Learning**

Research in **deep learning** based **zero-shot learning** techniques for domain and intent selection tasks.

Published as "Zero-Shot Learning across Heterogeneous Overlapping Domains." In Proc. Interspeech 2017.

## **Conditional Random Field Model Compression**

Used a combination of voronoi iteration, weight quantization, probabilistic data structures and feature hashing to compress and accelerate conditional random field structured prediction models, leading to a 99% size compression and a 30% speed acceleration, with no degradation in accuracy.

## **Alexa Skills Kit Python Client**

Built ask-alexa-pykit the first python client for the Alexa Skills Kit SDK as a side project outside of work. Built a demo skill using the client which was selected and deployed as Twitter's official alexa skill.

**MISC** 

- Awarded the **Amazon Inventor Award** for contributing to patentable IP. **8 patent applications** pending with the USPTO in fields of **Recommendation Systems**, **NLP**, **Question Answering** and **Speech Recognition**.
- One of 50 students awarded the **Start@aStartUp Fellowship** by **Sequoia Capital** in 2014.
- Selected as a delegate of India for the Harvard Project for Asian and International Relations in 2011.
- Awarded the prestigious National Talent Search Scholarship. Awarded to 1000 out of 1.5 million candidates.
- GRE: 336/340, Quantitative: 168/170, Verbal: 168/170, Analytical: 5.5/6.
- Certificate of Merit at the 9<sup>th</sup> National Science Olympiad (India Rank 133).