

ANKIT VANI

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EDUCATION

- Courant Institute of Mathematical Sciences, New York University** *Sep 2015 - May 2017*
Master of Science (M.S.) in Computer Science
GPA: 4.0/4.0
- Sinhgad Institute of Technology, University of Pune** *Aug 2009 - May 2013*
Bachelor of Engineering (B.E.) in Computer Engineering
Graduated with First Class

RESEARCH INTERESTS

Natural language understanding, Representation learning, Conversational agents

PUBLICATIONS

- **Ankit Vani**, Yacine Jernite, and David Sontag. *Grounded Recurrent Neural Networks*. arXiv:1705.08557 Preprint, May 2017.
- Ramakrishna B Bairi, **Ankit Vani**, Pooja Ahuja, and Ganesh Ramakrishnan. *Categorising videos using a personalised category catalogue*. Proceedings of the 2nd ACM IKDD Conference on Data Sciences (CoDS 2015): March 2015.

TECHNICAL REPORTS

- Ankit Vani. *Adversarial Discrete Sequence Generation*. November 2017.
- Ankit Vani. *Adversarial Objectives for Text Generation*. December 2016.
- Ankit Vani and Vighnesh Birodkar. *Challenges with Variational Autoencoders for Text*. December 2016.
- Ankit Vani and Srivas Venkatesh. *Adjustable Text to Image Synthesis*. December 2016.

RESEARCH EXPERIENCE

- Research Scientist at FeatureX** *Jun 2017 - present*
- Working on machine understanding of satellite images for classification, detection and segmentation
 - Doing research in areas like super-resolution, image synthesis and domain adaptation
- Research Assistant at New York University** *Jan 2016 - May 2017*
- With David Sontag:
 - Explored methods to track changing beliefs when reading text using grounded recurrent networks
 - Worked on deep conditional language models for clinical NLP tasks like entity linking for medical concepts
 - With Rob Fergus:
 - Worked on discrete sequence generation using generative adversarial networks and reinforcement learning
 - With Kyunghyun Cho:
 - Explored adversarial objectives for robust conditional and unconditional text generation
- Research Intern at Indian Institute of Technology Bombay** *Jul 2014 - Jul 2015*
- Worked on extreme multilabel classification using associative Markov networks trained with active learning, under the guidance of Ganesh Ramakrishnan
- Data Scientist at Hoverr** *May 2014 - Jul 2014*
- Built a machine learning and natural language processing library for categorization of news articles

SELECTED PROJECTS

Variational Autoencoder for Text Generation at *New York University* *Oct 2016 - Dec 2016*

- An RNN decoder in a variational autoencoder for text becomes too strong and ignores latent variable z – experimented with ways to maximize the mutual information between decoding and z
- Showed that a mutual information criterion increases KL divergence and encodes some information relevant to generation

Adjustable Text-to-Image Synthesis at *New York University* *Nov 2016 - Dec 2016*

- Generated realistic images based on input text captions, trained with information maximizing generative adversarial nets (InfoGAN)
- For Caltech-UCSD Birds dataset, three sliders adjust the conditionally generated bird's rotation, size and background detail

Deep Cascades with Perceptron at *New York University* *Dec 2015*

- Developed an algorithm to leverage the deep cascades architecture and bounds using kernelized perceptrons as leaf predictors
- Showed performance comparable to kernelized binary SVM

3D User Interface for Operating Systems at *Sinhgad Institute of Technology* *Jan 2013 - May 2013*

- Windows and controls are projected in 3D space (using anaglyph 3D)
- Users interact with window elements by touching their perceived positions in space, detected through a depth sensor

OPEN-SOURCE CONTRIBUTIONS

PyTorch (bug fixes, adding multiple differentiability for some ops), **Pidgin, Finch & libpurple** (Google Summer of Code 2013, new plugins, bug fixes, enhancements), **CyanogenMod & OmniRom**, (Android 4.0+ bug fixes for Samsung Galaxy S II), **Inspire IRC Daemon** (bug fixes), **Anope IRC Services** (new plugins)

TECHNICAL SKILLS

Programming Languages:

Python, C, C++, Java, Lua, MATLAB, SQL, L^AT_EX

Libraries:

TensorFlow, PyTorch, Scikit-Learn, NLTK, GLib, GTK+, Spring Framework

Platforms and Environments:

Linux, Git, Mercurial, Eclipse, Windows

TEACHING EXPERIENCE

- Held office hours and occasional recitation lectures for the Fundamental Algorithms graduate course at NYU in Spring 2016 and Summer 2016 semesters
- Taught a four-day 2D Game Development workshop for students of SIT Lonavala in March 2012. Every student developed a small Windows game by the end of the last day
- Taught a workshop on Linux and development tools for students of Computer Engineering in April 2011

HONORS AND AWARDS

- 2018 Matthew Smosna Prize, given each year to the master's student with the highest level of academic achievement at NYU
- Fall 2016 M.S. in Computer Science Fellowship for outstanding performance in a master's program at NYU
- Winner of IBM Bluemix Hackathon – Marrakech, for an educational game collects labels for videos, in August 2015
- Winner of AppsFest National Android Apps Development Championship at Indian Institute of Technology Madras, India in 2013
- Advanced to represent the state of Gujarat in the national finals of National Young Talent Search programming competition organized by Computer Society of India, held in Chennai, India in 2007