

# JITIN KRISHNAN

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♦ Publications: <https://jitinkrishnan.github.io/publications/>

**RESEARCH INTEREST:** Deep Learning, NLP, Multimodal and Multilingual Understanding, Graph Neural Nets.

## EDUCATION

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**George Mason University**, Fairfax, VA

Ph.D. in Computer Science

May 2021

**University of Virginia**, Charlottesville, VA

B.S. in Computer Science, Minor in Economics

December 2012

## WORK EXPERIENCE

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**Meta Platforms, Inc.** - Seattle, WA

Research Scientist ♦ Meta AI ♦ Integrity ♦ Recommender Systems

Nov 2021 – Present

- **End-to-End ML:** Performed comprehensive research and experiments on various integrity and recommender system problems across multiple product surfaces. Worked with cross-functional teams and launched E2E ML pipelines which includes building data pipelines, designing new ML models, performing extensive hyperparameter tuning, exploring different configurations, and eventually landing models in production.
- **Research:** Focused on entailment-style learning, masked language modelling, multilingual and multimodal transformers, efficient cross-attention transformers. Visit <https://jitinkrishnan.github.io/publications/> or google scholar.

PhD Intern ♦ Dangerous Content ML ♦ NLP and Graph Neural Networks

Summer 2020

- **Graph Isomorphism Network / Graph Attention Network:** Performed comprehensive research and experiments on Graph Neural Networks and applied it to construct an end-to-end machine learning pipeline to identify terrorism violating actors using neighborhood aggregation to improve node embeddings.

PhD Intern ♦ Business Integrity ML ♦ Computer Vision

Summer 2019

- **Convolutional Neural Nets:** Performed comprehensive research and experiments on Neural Style Transfer and built an end-to-end pipeline for robust shape-based ResNet-50 classifiers particularly addressing adversarial images.
- Research was motivated from the work by Geirhos et al who showed the texture-biased nature of existing image classifiers.

**George Mason University** - Fairfax, VA

PhD Student/Research Assistant ♦ Instructor ♦ Computer Science ♦ Machine Learning/NLP

Fall 2013 – Spring 2021

- **Unsupervised Cross-Domain and Cross-Lingual Problems in Text:** Predominantly focused on advancing the state-of-the-art subjective text classification problems under domain shift or language shift. Examples include learning from past crisis events to evaluate an ongoing crisis or transferring knowledge from one language to another; thus improving the generalizability of machine learning/language models. Architecturally, explored many aspects of Deep Learning which includes BiLSTM, Word Vectors, Attention mechanisms, and Transformer-based models such as T5, BERT, and XLM-R; using which we studied Multi-Task Learning, Cross-Domain/Cross-Lingual Sentiment Classification, Slot-filling, Code-Switching, Transliteration, and Question-Answering problems. **Publications/Code:** Visit <https://jitinkrishnan.github.io/publications/>
- **Teaching:** <https://jitinkrishnan.github.io/teaching/> (Intro to Programming, OOP, Data Structures – in Java and Python).
- **Advisors:** Huzefa Rangwala and Hemant Purohit

**Amazon.com, Inc.** - Seattle, WA

Applied Scientist Intern ♦ Alexa NLU

Summer 2021

- Performed research and experiments on the joint tasks of Intent Prediction and Slot Filling for various Alexa Skills. This included implementing and adopting the research paper “Self-Training with Weak Supervision” by Karamanolakis et al. (2021) to Alexa skills. This work utilizes weak labels and unlabeled data to iteratively train a Teacher-Student framework.

**NASA Goddard Space Flight Center** - Greenbelt, MD

Intern ♦ AI Research

Summer 2015 - 2018

- **Systems Engineer’s Virtual Assistant (SEVA):** An explainable virtual assistant designed to help NASA’s Systems Engineers in their daily work and aid them in information retrieval, question-answering, preserving lesson learned, common-sense reasoning, etc. **Publications/Code:** <https://github.com/jitinkrishnan/NASA-SE>

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**Languages/Tools** - PyTorch, TensorFlow, Keras, Python, Java, Octave, C, C++, MIPS assembly, Matlab, Lisp, Prolog

**Award** - John Mather Nobel Scholar (NASA GSFC, July 2017)