

# Sriram Srinivasan

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## EDUCATION

*PhD. in, Computer Science, specializing in Machine Learning*  
University of California Santa Cruz August 2015 - August 2020  
Advisor - Lise Getoor  
Thesis - Towards Fast and Efficient Structured Prediction.  
GPA: 3.78

*Master of Science, Computer Science*  
University of Texas at Arlington August 2011 - December 2013  
Advisor - Matthew Wright  
Thesis - Modelling an intelligent intruder in a region monitored by a wireless sensor network.  
GPA : 3.75

*Bachelor of Engineering, Computer Science*  
Nagarjuna college of engineering and technology, Bangalore August 2007 - June 2011

## PROFESSIONAL EXPERIENCE

### *Full-time positions*

#### **Amazon LLC**

Applied Scientist 2 (Team: Search Sciences and Artificial Intelligence): **August 2020 – Present**

- Working on training and evaluation of large machine learning models to generate effective and general representation of entities.

Applied Scientist 2 (Team: Recommendations Modeling): **February 2015 – July 2015**

- Designed and implemented scalable machine learning packages. These packages were used to power different products like “Beautiful things updated daily”, Amazon instant video advertisement placement on external websites.
- Prototyped recommendation algorithms, and performed offline testing to evaluate them.
- Transformed prototypes into production systems, and ensured scalability.
- Educated and evangelized to sister teams.

Software Development Engineer (Team: Recommendations Modelling): **January 2014 – January 2015**

- Designed and implemented packages for data gathering and cleaning using Elastic Map Reduce. This data set was used to train all machine learning models in the Personalization organization.
- Implemented tools in python to visualize different machine learned models.
- Ran different kinds of experiments on different types of pages on Amazon retail web page. Like the “Your store home”, “Cart Page”.

### *Internships*

#### **Amazon LLC**

Applied Scientist Intern (Team: Matching Quality): **September 2018 – December 2017**

- Worked on a scalable graphical model approach to classify mismatch in search results at realtime. Created a novel approach to improve search quality by reducing search mismatches at realtime.

- This work was published at CIKM 2019.

Applied Scientist Intern (Team: Search Labs):

**June 2018 – September 2018**

- Worked on a novel approach to use GAN to generate search results.
- Explored the possibility using GAN as a diversified search engine. The model combined multiple sources of information and was trained to perform multiple tasks to improve effectiveness on all tasks.

Applied Scientist Intern (Team: Personalization Sciences):

**June 2017 – September 2017**

- Worked on LSTM based model to generate recommendations using user browse behaviour data. Model was used to complete a user's session and hence help in discovering items earlier. Method was tested and compared against other methods used to generate recommendations in production.
- Implemented the model and it's evaluation using Tensorflow.

Applied Scientist Intern (Team: Recommendations Modelling):

**June 2016 – August 2016**

- Designed and implemented embedding based ranking model using Deep neural network to come up with personalized recommendations. Tested different hypothesis and compared to different baselines.
- Implemented model and evaluation in Keras and theano framework, python.

Software Development Engineer - Intern (Team: Core Recommendations):

**May 2013 – August 2013**

- Goal of the internship was to come up with a system that would automatically optimize for the right UI component on any Recommendations widget.
- Implemented a system that did automatic UI optimization on "Your store home" page.

### *Academic positions*

**University of California Santa Cruz**

Graduate Research Assistant

**September 2016 - August 2020**

- Working with Vishy on improving performing large data and model parallel optimization.
- Working with Lise on improving effectiveness and efficiency of performing structured prediction using probabilistic soft logic.

**University of Texas at Arlington**

Graduate Research Assistant at Information Security Lab

**January 2012 - December 2013**

- Built a model for an intruder trying to cross a wireless sensor monitored area.
- Wrote different simulations of the agent using Java.
- Goal was to address the key challenge of abstracting state space in order to learn efficiently.
- Used Q-learning to learn optimal action given the state of the agent.

**Center for Online Development**

Graduate Assistant/Web developer

**September 2011 – December 2011**

- Built and maintained The University of Texas system's people portal web page for staff.
- Developed web pages using PHP with Zend Framework, Java script and HTML.
- Tested the web pages that were being built and fix bugs.

## PROGRAMMING SKILLS

Proficient in Java, Python, Matlab, C++.

## PUBLICATIONS

### Journal Papers

- “A Taxonomy of Weight Learning Methods for Statistical Relational Learning“ by Sriram Srinivasan\*, Charles Dickens\*, Eriq Augustine, Golnoosh Farnadi, and Lise Getoor (MLJ 2021).
- “A Comparison of Statistical Relational Learning and Graph Neural Networks for Aggregate Graph Queries“ by Sriram Srinivasan\*, Varun Embar\*, and Lise Getoor (MLJ Special Issue on Learning and Reasoning 2021).

### Conference Papers

- “Joint Estimation of User And Publisher Credibility for Fake News Detection“ by Sriram Srinivasan\*, Rajdipa Chowdhury\*, and Lise Getoor (CIKM 2020).
- “BOWL: Bayesian Optimization for Weight Learning in Probabilistic Soft Logic“ by Sriram Srinivasan, Golnoosh Farnadi, and Lise Getoor (AAAI 2020).
- “Tandem Inference: An Out-of-Core Streaming Algorithm For Very Large-Scale Relational Inference“ by Sriram Srinivasan\*, Eriq Augustine\*, and Lise Getoor (AAAI 2020).
- “Identifying Facet Mismatches In Search Via Micrographs“ by Sriram Srinivasan, Nikhil S Rao, Karthik Subbian, and Lise Getoor (CIKM 2019).
- “Lifted Hinge-Loss Markov Random Fields“ by Sriram Srinivasan, Behrouz Babaki, Golnoosh Farnadi, and Lise Getoor (AAAI 2019).
- “Two-temperature logistic regression based on the Tsallis divergence“ by Ehsan Amid, Manfred Warmuth, and Sriram Srinivasan (AISTATS 2019).
- “Scaling Multinomial Logistic Regression via Hybrid-Parallelism“ by Parameswaran Raman, Sriram Srinivasan, Shin Matsushima, Xinhua Zhang, Hyokun Yun, and S.V.N. Vishwanathan (KDD 2019).
- “Adaptive, Personalized Diversity for Visual Discovery“ by Choon Hui Teo, Houssam Nassif, Daniel Hill, Sriram Srinivasan, Mitchell Goodman, Vijai Mohan, S. V. N. Vishwanathan (Recsys 2016), **Awarded best short paper.**
- “Multi-core computers have high scalability than graphics processing units for diffuse optical tomographic image reconstruction,” by Jayaprakash, Vaishnav Desai, Sriram Srinivasan, and Phaneendra Kumar Yalavarthy (European Conferences on Biomedical Optics 2013).

### Workshop Papers

- “Estimating Aggregate Properties In Relational Networks With Unobserved Data“ by Sriram Srinivasan\*, Varun Embar\*, and Lise Getoor (Ninth international workshop on StarAI at AAAI 2020), **Awarded best paper.**

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\*equal contribution

- “Tractable Marginal Inference for Hinge-Loss Markov Random Fields“ by Sriram Srinivasan\*, Varun Embar\*, and Lise Getoor (Third ICML workshop on TPM 2019).
- “A Fairness-aware Hybrid Recommender System“ by Golnoosh Farnadi, Pigi Kouki, Spencer K. Thompson, Sriram Srinivasan, and Lise Getoor (FATREC, Workshop on Responsible Recommendation 2018).

## **Thesis**

- “PhD Thesis: Towards Fast and Efficient Structured Prediction “ by Sriram Srinivasan  
Advisor: Lise Getoor
- “Master’s Thesis: Modeling An Intelligent Intruder In A Region Monitored By A Wireless Sensor Network “ by Sriram Srinivasan  
Advisor: Matthew Wright

## **PATENT**

- “Artificial Intelligence System For Optimizing Network-Accessible Content” by Houssam Nasif, Yi Liu, Tao Hu, Anand Mahadeva Iyer, Jian Liu, Sriram Srinivasan, Vishwanathan Swaminathan  
US Patent No. 11,126,785,  
<http://www.pat2pdf.org/patents/pat11126785.pdf>
- “Content Selection Algorithms” by Sriram Srinivasan, Houssam Nasif, Vijai Mohan, Vishwanathan Swaminathan, Mitchell Howard Goodman  
US Patent No. 9,817,846,  
<http://www.pat2pdf.org/patents/pat9817846.pdf>

## **HONOURS AND AWARDS**

- AAAI travel grant for AAAI 2020. Amount: \$250 .
- ACM SIGIR travel grant for CIKM 2019. Amount: \$1000 .

**Reference available on request.**