Shashank Srikant

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Education

- **Massachusetts Institute of Technology (MIT)** — Cambridge, MA, USA
  Ph.D. candidate at the Computer Science & AI Lab (CSAIL), Dept. of EECS — Aug 2017 onwards
  - **Research focus**: Towards a data-driven and cognitive understanding of bugs and security vulnerabilities in programs
  - **Courses**: Advanced NLP, Machine Learning, Program Analysis, Cryptography & Cryptanalysis, Computer Systems Security
  - **Advisor**: Dr. Una-May O'Reilly, Founder & Principal Investigator, Any-scale Learning For All (ALFA) Lab
- **National Institute of Technology (NIT)** — Kurukshetra, India
  B.Tech. in Information Technology; **CGPA:** 9.1/10 — Aug 2007 – July 2011
  - **Department GPA:** 9.32/10; Among the top three performers in the department in the senior year of the course
  - **Key Courses**: Probability & Statistics, Compiler Theory, Theory of Computation, Advanced Algorithms, Software Engineering

Publications & Patents

- **[ICLR, 2021]** *Generating Adversarial Computer Programs using Optimized Obfuscations*, Srikant S., Liu S., O'Reilly UM et al. [link]
- **[eLife, 2020]** *Comprehension of computer code relies primarily on domain-general executive resources*, Ivanova A., Srikant S., et al. [link]
- **[arXiv 2019]** *Dependency-based neural representations for classifying lines of computer programs*, Srikant S., Lesimple N., O'Reilly UM [link]
- **[CACM 2019]** *Skill Evaluation*, Srikant S., Takhar R., Venugopal V., Aggarwal V. [link]
- **[LeGO 2018]** *On the Application of Danskin's Theorem to Derivative-Free Minimax Optimization*, Al-Dujaili A., Srikant S., Hemberg E., O'Reilly UM [link]
- **[SIGCSE 2017]** *Introducing data science to school kids*, Srikant S., Aggarwal V. [link]
- **[KDD 2016]** *Question independent grading using machine learning: The case of computer program grading*, Singh. G, Srikant S., Aggarwal V. [link]
- **[KDD 2014]** *A system to grade computer programming skills*, Srikant S., Aggarwal V. [link]
- **[IKDD CODS 2016]** *AMEO 2015: A dataset comprising AMCAT test scores, biodata details and employment outcomes of job seekers*, Aggarwal V., Srikant S., Nisar H. [link]
- **[IEEE S&P 2018, Workshop]** *Exploring the Use of Autoencoders for Botnets Traffic Representation*, Srikant S., Hemberg E., O'Reilly UM [link]
- **[ICML 2015, Workshop]** *Learning models for personalized educational feedback and job selection*, Shashidhar V., Srikant S., Aggarwal V. [link]
- **[NIPS 2013, Workshop]** *Principles for using machine learning in the assessment of open response items: Programming assessment as a case study*, Aggarwal V., Srikant S., Shashidhar V. [link]
- **[indiaspend.org, 2016]** *Why Bihar can treat only 0.3% of malnourished children*, Srikant S., Ojha N. [link]
- **Patent**: *Extracting semantic features from computer programs*, Aggarwal V., Srikant S. *USPTO# 20160104392*
- **Patent**: *Method and system for grading a computer program*, Aggarwal V., Srikant S. *USPTO# 20160103754*

Work Experience

- **MIT-IBM Watson AI Lab** — virtual
  Research intern — June 2020 – August 2020
  - Investigated robustness of extant ML models for computer programs. Devised an optimization formulation to attack such ML models, and showed lack of robustness. Mentored by Dr. Sijia Liu.
- **Aspiring Minds** — Gurgaon, India
  Senior Research & Development Engineer, Team Lead — July 2011 – June 2016
  - A high-technology product start-up which matches skills to the right jobs in a data-driven way.
  - Built skill-evaluation products for different skills like programming ability, speaking ability, etc. using state of the art technologies in speech processing, program analysis, NLP. As one of the founding engineers of our product research group, I was involved in the design and development of all our core technology-products. Over the course of my five year stint, I was responsible for hiring and growing our team to 20+ research and software engineers, managing the design and development of new products, publishing our work at top-tier conferences, and academic liaison.

- ○ Our products are being used by multi-nationals across US and Asia, and evaluate 1M+ job aspirants annually.

Awards & Managerial

- **Co-founder, Data Science for Kids.** A fun project to teach kids the basics of data science. *datasciencekids.org*
- **Co-organizer, ASSESS 2014 & 2015.** Co-organized annual international workshops on data-driven techniques for educational assessments, which were co-located at KDD 2014 and ICDM 2015. *aspiringminds.com/assess/2015*
- **Microsoft scholarship**, given to ten undergraduates from India to pursue a research project at Dept. of CSE, Indian Institute of Technology (IIT), Roorkee, 2010
- **ACM ICPC India on-site finalists, 2009, 2010.** Ranked an average of 18/∼400 over the two years.