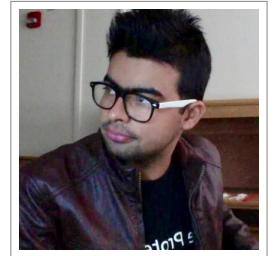


Avi Srivastava

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Current Research Interests

Analysis Efficient Algorithms for bulk/single-cell RNA-seq data
Uncertainty Aware Graphical Models for Transcriptomic data

Education

- 2014–Present **Ph.D. Candidate**, *Department of Computer Science*, Advisor – *Prof. Rob Patro*.
Stony Brook University, Stony Brook, New York, USA.
Research Area: Computational Biology, Machine Learning, (bio)Statistics.
- 2008–2012 **B.Tech.**, *Computer Science Department*, Advisor – *Prof. Ankush Mittal*.
College of Engineering Roorkee, Roorkee, India.
Research Area: Medical Imaging (CBIR), Parallel Computing.

Employment

- Roche Sequencing Solutions**, *Pleasanton, California.*
- 2016(Summer) *Research Intern, Infectious Diseases Unit.*
Stony Brook university, *Stony Brook, New York, USA.*
- 2015–Present *Research Assistant, Department of Computer Science.*
- 2014–2015 *Teaching Assistant, Department of Computer Science.*
Accenture Services Pvt Ltd., *Pune, India.*
- 2013–2014 *Software Engineer, Service-Oriented Architecture Development Group.*

Publications

Published

- 2017 Mohsen Zakeri, **Avi Srivastava**, Fatemehalsadat Almodarresi TS, and Rob Patro, "*Improved data-driven likelihood factorizations for transcript abundance estimation*", ISMB-17, Oxford Bioinformatics, **Volume 33**, Issue 14, 15 July 2017.
- 2016 **Avi Srivastava**, Hirak Sarkar, Laraib Malik, Rob Patro, "*Accurate, Fast and Lightweight Clustering of de novo Transcriptomes using Fragment Equivalence Classes*", Accepted in Recomb-seq, **arXiv**, 2016.
- 2015 **Avi Srivastava**, Hirak Sarkar, Nitish Gupta, and Rob Patro, "*RapMap: A Rapid, Sensitive and Accurate Tool for Mapping RNA-seq Reads to Transcriptomes*", ISMB-16, Oxford Bioinformatics, **Volume 32**, Issue 12, 15 June 2016.
- 2014 K Yadav, **A Srivastava**, A Mittal, MA Ansari, "*Texture-based medical image retrieval in compressed domain using compressive sensing*", International journal of bioinformatics research and applications, **Vol.10, No.2**, 2014.
- 2013 K Yadav, **A Srivastava**, A Mittal, MA Ansari, "*GPU parallel implementation of B-spline non-rigid grid registration using free-form deformations*", International Journal of Biomedical Engineering and Technology, **Vol.11, No.2**, 2013.

- 2011 K Yadav, A Mittal, MA Ansari, **Avi Srivastava**, "*Parallel Implementation of Compressed Sensing Algorithm on CUDA- GPU*", International Journal of Computer Science and Information Security, **Vol. 9 No. 3**, 2011.

Invited Talks

- 2017 **Avi Srivastava** and Rob Patro, "*Algorithmic Advancement in Transcriptome Analyses*", Laufer Center for Physical and Quantitative Biology-Retreat, Stony Brook, New York.
- 2016 **Avi Srivastava**, Hirak Sarkar, Nitish Gupta, and Rob Patro, "*RapMap: A Rapid, Sensitive and Accurate Tool for Mapping RNA-seq Reads to Transcriptomes*", ISMB, Orlando, Florida.

Poster

- 2016 **Avi Srivastava**, Darya Filippova, Owen Solberg, Khai Luong, "*Understanding PacBio SMRT Sequencing consensus algorithm and possible improvements*", Roche Sequencing Solutions, Pleasanton, California.

Open Source Softwares

- Alevin (2017) **Super-fast scRNA-seq barcode, umi correction and quantification with uncertainty.**
<https://github.com/k3yavi/alevin>
- Shoal (2016) **Improved multi-sample transcript abundance estimates using adaptive priors.**
<https://github.com/COMBINE-lab/shoal>
- RapClust (2016) **Accurate, Fast and Lightweight Clustering of de novo Transcriptomes using Fragment Equivalence Classes.**
<https://github.com/COMBINE-lab/RapClust>
- RapMap (2015) **A Rapid, Sensitive and Accurate Tool for Mapping RNA-seq Reads to Transcriptomes.**
<https://github.com/COMBINE-lab/RapMap>

Honors

- 2016 ISMB Student Travel Fellowship
- 2016 Distinguished Travel Award
- 2015 Best Teaching Assistant Award
- 2014 CS Department Chair Fellowship
- 2012 Best undergraduate project award

Skills

- Expert Bash, C/C++(including C++11), CUDA, \LaTeX , MATLAB, Python
- Experience BWA, BPEL, GATB, Git, Java, OSB, Prolog, R, Samtools, Snakemake, Spacemacs(Vim+Emacs)

Teaching

Teaching Assistant.

- 2015-Fall **CSE-537**, *Artificial Intelligence*, Department of Computer Science.
Prof. I.V. Ramakrishnan
- 2015-Spring **CSE-220**, *System Fundamentals II*, Department of Computer Science.
Prof. Jeniffer Wong
- 2014-Fall **CSE-220**, *System Fundamentals I*, Department of Computer Science.
Prof. Jeniffer Wong

Hobbies