

## Education

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| <b>Ph.D. (Computer Science),</b><br>State University of New York (SUNY), Albany<br>Department of Computer Science<br>Thesis Advisor: Prof. Ian Davidson<br>Thesis Title: Data Mining for Large Datasets: Intelligent Sampling and Filtering | August 2006 |
| <b>M.S. (Computer Science),</b><br>State University of New York (SUNY), Albany<br>Department of Computer Science. GPA: 3.96/4.0   | May 2002    |
| <b>B.E. (Computer Science)</b><br>University Visvesvaraya College of Engineering, Bangalore<br>Department of Computer Science. (Ranked 1st)   | July 2000   |

## Experience

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| • <b>Graduate Center (CUNY),</b> New York, NY<br><i>Doctoral Faculty (Computer Science)</i>                                   | Nov 16 - Now     |
| • <b>New York City College of Technology (CUNY),</b> Brooklyn, NY<br><i>Associate Professor (Computer Systems Technology)</i> | Aug 18 - Now     |
| • <b>New York City College of Technology (CUNY),</b> Brooklyn, NY<br><i>Assistant Professor (Computer Systems Technology)</i> | Aug 12 – Aug 18  |
| • <b>Microsoft Corporation,</b> Redmond WA<br><i>Applied Research Scientist (at Bing)</i>                                     | Nov 06 – Jun 12  |
| • <b>Department of Computer Science, University at Albany (SUNY)</b><br><i>Teaching Assistant</i>                             | Sept 00 – Jul 06 |

## Patents

- **Satyanarayana, A.,** Govani, T., Pradhan, S.S., Kumaran, G., FU, X., Pan, F. and Agrawal, N., 2013. *Alternative Query Suggestions By Dropping Query Terms*. U.S. Patent 20,130,086,509.
- Govani, T., **Satyanarayana, A.,** Haas, K.L., Lin, Y.A., Indarapu, S. and Pradhan, S.S., 2013. *Adding Social Network Data To Search Suggestions*. U.S. Patent 20,130,054,631.
- **Satyanarayana, A.,** Govani, T., Pradhan, S.S., Billerbeck, B.V. and Agrawal, N., 2013. *Autosuggesting An Equivalent Query*. U.S. Patent 20,130,041,878.
- Mohiuddin, A., Fernandes, G.J., Mehanna, H.M., Govani, T., **Satyanarayana, A.** and Liu, X., 2015. *Enhanced Query Suggestions In Autosuggest With Corresponding Relevant Data*. U.S. Patent 8,990,242.

## Book

- Malyuta, T. and **Satyanarayana, A.** Essential Aspects of Physical Design and Implementation of Relational Databases (2014). ISBN-13: 978-0692281888

## Peer Reviewed Journal and Conference Articles

- B.Taylan, **A.Satyanarayana**, and S.Samb, “A Writing Tool that Provides Real-Time Feedback to Students on their Grammar Using Deep Learning” *2019 ASEE Mid-Atlantic States Fall Conference, New York, New York, November 1-2, 2019.*
- **A.Satyanarayana**, R.Lansiquot, and C.Rosalia (2019, October). “Using Prescriptive Data Analytics to Reduce Grading Bias and Foster Student Success.” *49th IEEE Frontiers in Education Conference (FIE) (pp. 1-5). IEEE, Cincinnati, OH, October 16-19, 2019.*
- **A.Satyanarayana**, K. Goodlad, J. Sears, P. Kreniske, M. Diaz and S. Cheng, “Using Natural Language Processing Tools on Individual Stories from First Year Students to Summarize Emotions, Sentiments and Concerns of Transition from High School to College”, *126th ASEE Annual Conference 2019, Tampa, FL, June 16-19, 2019.*
- K.Goodlad, S.Cheng, J.Sears, M. Diaz, **A.Satyanarayana**, and P.Kreniske, (2019). “Our Stories”: First-year Learning Communities Students Reflections on the Transition to College. *Learning Communities Research and Practice*, 7(2), Article 5.
- **A.Satyanarayana**, and L.Baron, “A Peer based Tutoring and Mentoring Model for First Year Computer Science Courses Based on Strategies Used by Songbirds for Learning”, *50th ACM Special Interest Group on Computer Science Education (SIGCSE '19), February 27– March 2nd, 2019, Minneapolis, Minnesota, USA.*
- **A.Satyanarayana**, R.Natarajan, and L.Baron, “How Songbirds Learn to Sing Provides Suggestions for Designing Team Projects for Computing Courses”, *ASEE Mid-Atlantic Section Fall 2018 Conference, October 26-27th, 2018.*
- C. Cabo and **A.Satyanarayana**, “Promoting students’ social interactions results in an improvement in performance, class attendance and retention in first year computing courses”, *48th IEEE Annual Frontiers in Education (FIE'18), San Jose, California, October 4th–6th, 2018.*
- **A.Satyanarayana**, J.Kusyk and Y-W.Chen, “Design of Cloud Based Robots using Big Data Analytics and Neuromorphic Computing”, *31st IEEE Canadian Conference on Electrical and Computer Engineering (CCECE 2018), Quebec, Canada, May 13-16th 2018.*
- J. Bivens, **A.Satyanarayana**, J. Chen, “Pros and Cons of Using Data Analytics for Predicting Academic Performance in Computer Science Courses”, *49th ACM Special Interest Group on Computer Science Education (SIGCSE '18), February 21–24, 2018, Baltimore, MD, USA (BoF discussion).*
- C. Cabo and **A.Satyanarayana**, “Building a Community of First Year Students Improves Student Retention and Performance in Computing Courses”, *49th ACM Special Interest Group on Computer Science Education (SIGCSE '18), February 21–24, 2018, Baltimore, MD, USA (Poster).*
- **A. Satyanarayana**, J.Kusyk and H.Li, “Common Assessment of Two Related Courses to Reduce Grading Bias and Improve Readiness of the Students for Corporate Environments”, *ASEE Mid-Atlantic Section Fall 2017 Conference, Penn State University (Berks), Reading, PA, Oct 6-7th, 2017.*

- Nadia Benakli, Boyan Kostadinov, **A. Satyanarayana** and Satyanand Singh, “Introducing computational thinking through hands-on projects using R with applications to calculus, probability and data analysis”, *International Journal of Mathematical Education in Science and Technology* (Taylor & Francis), (2016).
- **A. Satyanarayana**, “Performance modeling of CMOS inverters using support vector machines (SVM) and adaptive sampling”, *Journal of Microprocessors and Microsystems* (Elsevier) (2016).
- **A. Satyanarayana**, Rosemary Chinchilla “Ensemble Noise Filtering for Streaming Data Using Poisson Bootstrap Model Filtering”, *13<sup>th</sup> International Conference on Information Technology – New Generations (ITNG 2016)*, Las Vegas, NV, April 2016, pp 869-879.
- **A. Satyanarayana** and M. Nuckowski, “Data Mining using Ensemble Classifiers for Improved Prediction of Student Academic Performance”, *ASEE Mid-Atlantic Section Spring 2016 Conference*, George Washington University, Washington D.C, April 2016.
- S. Singh, N. Benakli, B. Kostadinov, **A. Satyanarayana**, “Learning By Visualization and Simulation”, *2015 NYSMATYC Annual Conference*, April 17-19, Rochester, NY.
- **A. Satyanarayana**, “Intelligent Sampling for Big Data Using Bootstrap Sampling and Chebyshev Inequality”, *27<sup>th</sup> IEEE Canadian Conference on Electrical and Computer Engineering (CCECE 2014)*, Toronto, ON, May 2014.
- **A. Satyanarayana**, V. Acquaviva “Enhanced Cobweb Clustering for Identifying Analog Galaxies in Astrophysics”, *27<sup>th</sup> IEEE Canadian Conference on Electrical and Computer Engineering (CCECE 2014)*, Toronto, ON, May 2014.
- R. Lansiquot, **A. Satyanarayana** and C. Cabo, “Using interdisciplinary game-based learning to develop problem solving and writing skills”, *121<sup>st</sup> ASEE Annual Conference 2014*, Indianapolis, IN, June 2014.
- **A. Satyanarayana**, H. Li, and J. Braneky. "Improving retention by mentoring and tutoring freshmen students" *IEEE ASEE 2014 Zone 1 Conference*, University of Bridgeport, CT, April 3rd-5th, 2014.
- B. King and **A. Satyanarayana**, “Teaching data mining in the era of big data”, *120<sup>th</sup> ASEE Annual Conference 2013*, Atlanta, GA, June 2013.
- **A. Satyanarayana**, "Software Tools for Teaching Undergraduate Data Mining Course" *ASEE-2013 Mid-Atlantic Fall Conference*, University of the District of Columbia, Washington DC, October 11-12th 2013.
- N. Benakli, **A. Satyanarayana**, S. Singh, and A. Taraporevala "Learning while Visualizing" *ASEE-2013 Mid-Atlantic Spring Conference*, New York City College of Technology, Brooklyn, NY, April 26-27th 2013.
- P. Bailey, N. Craswell, R. White, L. Chen, **A. Satyanarayana**, and S .M . Tahaghoghi, “Evaluating whole-page relevance”, *33<sup>rd</sup> international ACM SIGIR conference on Research and development in information retrieval* (SIGIR 2010), pp. 767-768.
- P. Bailey, N. Craswell, R. White, L. Chen, **A. Satyanarayana**, and S .M . Tahaghoghi, “Evaluating Search Systems Using Result Page Context”, *3<sup>rd</sup> Symposium on Information Interaction in Context* (IIIX 2010), pp 105-114. (Best Paper Finalist)

- **A. Satyanarayana** “Data Mining For Large Datasets: Intelligent Sampling and Filtering”, *PhD Thesis, State University of New York, Albany, 2006 (Distinguished Dissertation Award)*.
- **A. Satyanarayana**, “Intelligent Data Selection Using Sampling and Filtering”, *Twenty-First National Conference on Artificial Intelligence Doctoral Consortium (AAAI 2006)*
- **A. Satyanarayana** and I. Davidson, “A Dynamic Adaptive Sampling Algorithm (DASA) for Real World Applications: Finger Print Recognition and Face Recognition,” *15th International Symposium on Methodologies for Intelligent Systems (ISMIS’05)*, Saratoga Springs, NY.
- I. Davidson, **A. Satyanarayana**, A. Grover and G.K. Tayi “A General Approach to Incorporate Data Quality Matrices into Data Mining Algorithms,” *10th International Conference on Knowledge Discovery and Data Mining (KDD’04)*, Seattle, WA.
- I. Davidson, **A. Satyanarayana**, “Speeding up k-means Clustering by Bootstrap Averaging,” *IEEE International Conference on Data Mining (ICDM ’03), Workshop on Clustering Large Data Sets*

## Grant Awards

1. Principal Investigator, Teach Access Grant, Sponsored by Silicon Valley Community Foundation (SVCF), \$5000 (2019-2020).
2. Principal Investigator, “Using Data Analytics for Personalization of Online Tutoring Systems” Sponsored by PSC-CUNY. Award # TRADA-50-217, \$3434 (July 1, 2018 – June 30, 2019).
3. Principal Investigator, “Big Data in Cloud Robotics using Neuromorphic Computing” Sponsored by PSC-CUNY. Award # TRADA-48-221, \$3360 (July 1, 2017 – June 30, 2018).
4. Principal Investigator, “Intelligent Data Selection using Holder Inequality for Data Mining” Sponsored by PSC-CUNY. Award # 66087-00 44, \$3402.30 (July 1, 2013 – June 30, 2014).
5. Principal Investigator, “Efficient Filtering of noisy data for Big Data using Bootstrap Averaging”, Sponsored by PSC-CUNY. Award # 68180-00 46, \$3134.00 (July 1, 2015 – June 30, 2016).
6. Site Principal Investigator, “Improving Retention of Freshman Students by Mentoring and Tutoring by Senior Students”, Sponsored by Perkins Grant. PI: Patty Barba. \$42,420 (Sept 2013 – May 2014)
7. Site Principal Investigator, “Improving Student Performance of Freshman Students by Tutoring” Sponsored by Perkins Grant. PI: Patty Barba. \$40,530 (Sept 2014 – May 2015)
8. Site Principal Investigator, “Improving Student Retention of Freshman Students by Tutoring” Sponsored by Perkins Grant. PI: Patty Barba. \$17,052 (Sept 2015 – May 2016)
9. Site Principal Investigator, “Improving Student Performance of Freshman Students by Tutoring” Sponsored by Perkins Grant. PI: Patty Barba. \$16,800 (Sept 2016 – May 2017)
10. Site Principal Investigator, “Improving Student Performance of Freshman Students by Tutoring” Sponsored by Perkins Grant. PI: Patty Barba. \$16,500 (Sept 2017 – May 2018)
11. Site Principal Investigator, “Improving Student Performance of Freshman Students by Tutoring” Sponsored by Perkins Grant. PI: Patty Barba. \$23,994 (Sept 2018 – May 2019)

## Invited Talks

1. **Teaching Recognition Award Workshop:** “Overcoming Apathy in the Classroom”, March 21<sup>st</sup> & April 2<sup>nd</sup>, 2019. Sponsored by PDAC.  
*Documentation:* [Teaching Award Workshop](#)
2. **Guest Speaker:** “Assessment at CityTech and AIRE”, Gen Ed Seminar on Assessment, April 12<sup>th</sup>, 2019.
3. **Keynote talk:** “The Power of Descriptive, Predictive and Prescriptive Data Analytics”  
*12<sup>th</sup> City Tech Research Conference 2018, May 1<sup>st</sup>, 2018*  
*Documentation:* [12th City Tech Research Conference Program](#)
4. **Panelist:** “Partner Disciplines on Teaching Mathematics”  
*Mathematical Association of America (MAA) Conference 2018, May 13<sup>th</sup>, Hofstra University, Hempstead, NY, May 13<sup>th</sup> 2018.* Documentation: <http://sections.maa.org/metrony/meetings.html>
5. **Panelist:** “Frankenstein Panel: Mary Shelley’s Novel’s Influence on Scientists and Technologists”  
*Third Annual City Tech Science Fiction Symposium 2018, Nov 27<sup>th</sup> 2018*  
Documentation: <https://openlab.citytech.cuny.edu/sciencefictionatcitytech/tag/symposium/>
6. **Panelist:** "Mapping Brooklyn: Digital Tools to Support Place-Based Learning" along with Christopher Swift (Presider), Ting Chin, Anne Leonard, Anne Leonhardt, Sean MacDonald, Satyanand Singh, Peter Spellane, *17<sup>th</sup> Annual CUNY IT conference 2018, Nov 29-30<sup>th</sup> 2018*
7. **Research Talk:** “Introduction to Big Data Analytics with Two Applications (Search Engine Speller and Predicting Student Academic Performance)”, NSF sponsored REU Program at the College of Staten Island (CSI) Summer 2016. (Talk given to REU students and Faculty)
8. **Faculty Presentation:** “Increased retention by peer-mentoring”, Perkins Local Advisory Council, Spring 2017
9. **Faculty Speaker:** “Assessment data to improve student outcomes”, City Tech's *Assessment Forum: What We Know, What We Do, Sept 12<sup>th</sup>, 2017*

## Teaching

### Dept. of Computer Science, Graduate Center (CUNY)

1. Information Retrieval (*Fall 2017*)
2. Computer Science Research (*Fall 2018*)
3. Data Mining (*Fall 2019*)

### Dept. of Computer Systems Technology, New York City College of Technology (CUNY)

1. CST4704, Data Warehousing and Data Mining (*Fall 2014, Fall 2015, Fall 2016, Fall 2018*).
2. PHYS 3600ID, Machine Learning for Physics and Astronomy (*Spring 18*)
3. CST4714, Oracle Database Administration (*Spr 2015, Spr 2016, Spr 2017, Fall 2017, Spr 2019, Fall 2019, Spr 2020*).
4. CST1100, Introduction to Computer Systems (*Fall 2012, Spring 2013, Fall 2013, Spring 2014, Fall 2014, Fall 2015, Fall 2016, Fall 2017, Fall 2018, Fall 2019*).
5. CST3504, Design of Microcomputer Databases (*Spring 2016*).
6. CST1204, Database Systems Fundamentals (*Spring 2013, Fall 2013, Spring 2014, Summer 2016*).

### Dept. of Computer Science, University at Albany (SUNY)

**Teaching Assistant** – Undergraduate Courses:

1. CSI201 - Introduction to Computer Science C++ (*Fall 2000, Spring 2001, Summer 2001*)
2. CSI310 - Data Structures (*Spring 2002, Summer 2005*)
3. CSI333 - Programming at the Hardware Software Interface (*Fall 2001, Fall 2002, Fall 2003*)
4. CSI401 - Numerical Methods for Digital Computers (*Fall 2005*)

5. CSI402 - Systems Programming (*Summer 2002*)
6. CSI403 - Algorithms and Data Structures (Undergraduate) (*Spring 05, Spring 06*)

**Teaching Assistant** – Graduate Courses:

1. CSI503 - Algorithms and Data Structures (*Fall 2005*)
2. CSI518 - Software Engineering (*Spring 2003*)

**Course Instructor:**

1. CSI103 - Topics in Computer Literacy (*Summer 2003, Summer 2005*)
2. CSI310 - Data Structures (*Summer 2004*)

## Departmental Service

- **Chair**, Assessment Committee, Department of Computer Systems Technology, New York City College of Technology, Brooklyn, NY.
  - Planning assessment schedules for Computer Systems Technology courses.
  - Involved with GenEd Assessment, Program level outcome assessment and Critical course assessment.
- **Member**, Appointment Committee, Department of Computer Systems Technology, New York City College of Technology, Brooklyn, NY.
  - Involved in reviewing and voting on a candidate's reappointment, certification, or tenure
  - Involved in hiring new candidates for the department.
  - Approve multiple position forms for full time faculty.
- **Member**, Recruitment Committee, Department of Computer Systems Technology, New York City College of Technology, Brooklyn, NY, Chair: Fangyang Shen.
  - Open house preparation and presentations, communication with prospective students, and freshman orientation
- **Member**, Curriculum Committee, Department of Computer Systems Technology, New York City College of Technology, Brooklyn, NY, Chair: Candido Cabo.
  - Created two new course proposals (Machine Learning, Data Mining).
- **Chair, Database Track**, Department of Computer Systems Technology, New York City College of Technology, Brooklyn, NY
  - Involved in database track evaluation and course proposals.
- **Secretary**, Department of Computer Systems Technology, New York City College of Technology, Brooklyn, NY.
- **Tutoring and Mentoring Supervisor**,
  - Involved in hiring and advising senior students who tutor and mentor freshman students (sponsored by Perkins Grant).

## Service to University



- ***Faculty Co-Chair, for the School of Tech and Design Assessment Committee. (Spring 2017 - )***
  - Involved in helping all the departments get their documents ready for Middle States accreditation.
- ***Member, College Council Curriculum Committee (Spring 2016 - )***
  - Spring 2016: Reviewed two major course proposals (COM2403 and COM2404).
  - Fall 2016 – Spring 2017: Developed a program to extract all new courses from the Chancellor's report.
  - Fall 2017: Reviewed a major proposal -MAT 061.
  - Spring 2018: Chaired a sub-committee that reviewed a major proposal – (Corequisites MAT 065, MAT 1190, MAT 1275)
- ***First Year Learning Community Leadership Team (Fall 2018 – Spring 2020)***
  - To plan for the workshop series in the spring semester and to facilitate learning and build interdisciplinary connections among faculty, while encouraging intellectual curiosity of both faculty and our diverse student population.
- ***Member, PDAC Info Committee (Fall 2018 - )***
  - Also known as the new faculty orientation committee, this committee is involved with conducting workshops for new faculty to help them get acclimatized with Teaching, service and scholarship.

## Professional Service and Affiliations

- **Chair**, American Society for Engineering Education (ASEE) Mid-Atlantic Section (2019-2020).
- National Science Foundation (**NSF**) Graduate Research Fellowship Program (**GRFP**) Panelist
- **Member** of several organizations including ASEE, SIGCSE, IEEE
- **Reviewer** of many conferences including KDD, ICML, ISMIS, Internet of Things and Big Data (IoTBD), Journal of Electrical and Computer Engineering (Elsevier).
- **Program Committee Member** of IoTBD, ISMIS, AISTATS.
- **Faculty mentor** for the Emerging Scholars Undergraduate Research program
- **Faculty mentor** for the Louis Stokes Alliances for Minority Participation (LSAMP) Undergraduate Research program.

## Undergraduate Research Supervisees

I mentored the following undergraduate students at City Tech:

- **Harpreet Gaur (Summer 2019)** was selected for the Microsoft Research Data Science summer program in 2019 (see <https://ds3.research.microsoft.com>).
- **Hashir Qureshi (Spring 2019)** my mentee and a tutor as part of the Perkins grant (see [4] in section 21) was selected as a Technical Apprentice position at Amazon Inc.

- **Alisa Kalegina (Fall 2018)**, an Emerging Scholar, worked with me on the project titled “Big Data in Cloud Robotics”. She is currently pursuing her PhD degree at University of Washington, Seattle in Computer Science (which ranks among the top ten US universities in Robotics).
- **Hantz Angrand and Kleber Perez (Spring 2017)** were my *Louis Stokes Alliances for Minority Participation (LSAMP) undergraduate research program* mentees. Kleber Perez was one of two City Tech students who won the CUNY Startups Hackathon competition.
- **Md Arefin (Spring 2016)**, my CST 4714 student, worked on an online airline reservation system with me (*see term projects in Teaching Portfolio*). He is currently a Technology Analyst at JP Morgan Chase.
- **Fatima Chebchoub (Summer 2016)** was selected for the Microsoft summer research program in 2016 (see <https://ds3.research.microsoft.com>). It was an extremely competitive process, with hundreds of students applying for eight positions for research on Big Data.
- The following publications resulted from mentoring students as part of the **Emerging Scholar’s Program**:

Semester	Student Name	Conference
Fall 2015	Mariusz Nuckowski	American Society for Engineering Education (ASEE) MidAtlantic Section (Spring 2016), Washington D.C.
Spring 2016	Rosemary Chinchilla	International Conference on Information Technology: New Generations (ITNG 2016), April 11-13, Las Vegas, NV
Fall 2017	Jan Way Chen	ACM SIGCSE ’18, February 21–24, 2018, Baltimore, MD, USA
Spring 2018	David Friedman Nadia Rodriguez	Mathematical Association of America (MAA) Conference 2018, May 13 <sup>th</sup> 2018, Hofstra University, Hempstead, NY
Spring 2019	Lior Baron	ACM SIGCSE ’19, February 27–March 2nd, 2019, Minneapolis, MN, USA

I have served on the PhD thesis committee for the following students: (Graduate Center – CUNY)

- Ahmet Cem Yuksel: “N-Tuple Neural Networks and Optimization Techniques” (Spring 19)
- Basak Taylan: “Knowledge Representation and Ontology Building For Semantic Web” (Spring 18)

## Awards and Honors

- **Teaching Recognition Award (2018-2019)**
  - PDAC Teaching Recognition Award honors faculty with long-term dedication to actualizing City Tech’s mission as a teaching institution “committed to high quality technological and professional education.” This may include but is not limited to innovative teaching/learning practices in the classroom, labs or online; creation of inclusive learning environments, a history of shared teaching/learning expertise with colleagues, and other initiatives that support student, faculty and/or community engagement
- Distinguished Dissertation Award, 2006 (PhD Thesis).
- SIGKDD Student Scholarship, August 2004.
- Gold Medalist, Indian National Mathematics Olympiad.
- Gold Medalist, Ranked 1st in the university, Bachelors in Computer Science.
- Runner-up in Annual Chess Tournament New York City High IQ Society.

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**References will be provided upon request**