# REBECCA RAMNAUTH

*Academic Curriculum Vitæ*

LIU Brooklyn
1 University Plaza, Humanities 700
Brooklyn, NY 11201

Tel: +1-347-693-7931
Email: rebecca.ramnauth@liu.edu
URL: https://rramnauth2220.github.io/

## EDUCATION

M.Sc. — Computer Science, Long Island University, 2017–2018 (discontinued)
*Advisors*: Dr. Mohammed Ghriga, Ph.D. and Dr. Ping-Tsai Chung, Ph.D.
*Thesis Projects:* The Relationship Between Handwriting & Reading in Autism, An Adaptive & Integrative Knowledge Base Expert Suite for the Screening of Learning Disabilities

B.Sc. — Computer Science, Long Island University–Honors Program, 2017–2018
Graduated *summa sum laude*
*Advisor*: Dr. Christopher League, Ph.D.

INTERESTS — Creative computing; generative art/music; computational, complexity, chaos theories; computational and discrete geometry; computer science education

## EXPERIENCE

May 2018 – Adjunct Professor, Department of Business, Public Administration, and Information Sciences, Long Island University (LIU)

June 2016 – Software Developer, Legal Tech & Information Governance Division, Consolidated Edison Company of New York

- Developing systems for tracking change management, operational risk, and compliance
- Providing the industry's first cradle-to-grave compliance solution
- Advising on and consolidating workflows of compliance procedures and functional requirements for 64+ departments on the regulatory entities of the energy (gas, steam, electric) utilities industry such as the relevant U.S. cabinet departments, NERC, PHMSA, OSHA, IEEE, PSC, ASTM, and ISO
- Engineered intelligent web-scrapers and cross-file translators that expedited data population efforts by 85%
- Principal researcher for a software risk prediction method for enterprise management applications based on security metrics and the case-studies of various project management approaches (Agile, Rational Unified Process, PRINCE2, ISO/1EC15504's SPICE and Extreme Project Management); *Advisor:* Dr. Anandi Singh, Ph.D.

July 2017 – Software Developer/Administrator, Business Ethics & Compliance Department, Consolidated Edison Company of New York

- Responsible for the configuration, and reliable operation of standards of business (SBC) conduct training systems and the Conflict-Of-Interest tracking system
- Engineered software robots for process automation and software testing, sentiment analysis and opinion mining tools for non-programmer's use through the Microsoft Office Suite, and text-identification tools for training assessments

## TEACHING

| | |
|---|---|
| Spring 2019 | LIU CS 668, Advanced Topics in Database Technology |
| Spring 2019 | LIU CS 666, Artificial Intelligence |
| Spring 2019 | LIU CS 132, Discrete Structures in Computer Science |
| Fall 2018 | LIU CS 102, Programming in C++ |
| Fall 2018 | LIU CS 101, Early College Initiative, Fundamentals of Computer Science |
| Fall 2018 | LIU CS 101, Fundamental of Computer Science, with Dr. Christopher League, Ph.D. |
| Summer 2018 | LIU Summer Honors Institute Coding Academy |

## VOLUNTEER

July 2014 – Mentor for Engineering Sciences, Brooklyn Technical High School (BTHS)

- Teaching Digital Electronics, Design & Drafting for Production, Theoretical Computer Science, and Statistics to 73 high school students, resulting in a 25% to 40% increase in their specified course grades
- Collecting programming languages, studying next-gen technology, and helping K-12 students understand and further explore computing, physics, and mathematics

June 2015 – Member, Stanford Scholars Initiative

- Developing presentations for research presented by university staff and researchers
- Working on translations for Computer Graphics and Machine Learning teams
- Producing audio and video content for submission to conferences (ACM CHI Conference on Human Factors in Computer Systems 2018, SIGKDD Conference on Knowledge Discovery and Data Mining 2018, and ACM Object-Oriented Programming, Systems, Languages, and Applications 2018)
- Created supplementary materials for:
  - "AlterEgo: A Personalized Wearable Silent Speech Interface." 23rd International Conference on Intelligent User Interfaces (IUI 2018), pp 43-53, March 5, 2018, with A. Kapur, S. Kapur, and P. Maes
  - "Using Contact Forces and Robot Arm Accelerations to Automatically Rate Surgeon Skill at Peg Transfer", in *IEEE Transactions on Biomedical Engineering*, vol. 64, no. 9, pp. 2263-2275, Sept. 2017, with J. D. Brown, C. E. O'Brien, S. C. Leung, K. R. Dumon, D. I. Lee, and K. J. Kuchenbecker
  - "An Approximate Dynamic Programming Algorithm for Large-Scale Fleet Management: A Case Application." *Journal of Transportation Science*, vol. 42, pp. 178-197, May 2009, with H. P. Simão, J. Day, A. P. George, T. Gifford, J. Nienow, and W. B. Powell
  - "Learning Classifier Systems: A Complete Introduction, Review, and Roadmap." Journal of Artificial Evolution and Applications, vol. 2009, no. 1, Jan. 2009, with R. J. Urbanowicz, and J. H. Moore

2015 – 2017 Instructor, Brooklyn Technical High School, Girls Who Code (GWC)

2014 – 2017 NY Assistant Coordinator, Special Olympics

2014 – 2017 FIRST Robotics Mechanical Engineer & Programmer, Team #334

2015 – 2017 Data Analyst, Special Educational Needs Guidance Department, Brooklyn Technical High School

## JOURNAL ARTICLES

| | |
|---|---|
| Sept 2018 | Reviewer & Editor, Generalization of Log-Aesthetic Curves via Similarity Geometry, with J. Inoguchi, K. Miura, R. Ziatdinov; publication pending in *Springer Journal of Industrial and Applied Mathematics* |
| May 2018 | Editor, Universal Software Platform for Visualizing Class F Curves, Log-Aesthetic Curves, and Development of Applied CAD Systems, with R. Ziatdinov, V. G. Muftejev, R. I. Akhmetshin, A. P. Zelev, R. I. Nabiyev, A. R. Mardanov; in the *Journal for Scientific Visualization, National Research Nuclear University*, vol. 10, no. 3, pp. 85-98, 2018 |

## CONFERENCES

| | |
|---|---|
| 2018 | Program committee, IEEE Reliability Society 5th International Conference on Dependable Systems and Their Applications |
| 2018 | Program committee, IEEE Reliability Society 4th International Conference on Trustworthy Systems and Their Applications |
| 2018 | Program committee, IEEE Reliability Society 3rd International Symposium on Dependable Computing and Internet of Things |
| 2018 | Program committee, IEEE Reliability Society International Conference on Creative Lifestyle Computing<br>– *International Symposium on Art-Science-Architecture*<br>– *International Symposium on Creative Computing* |

## CONFERENCE PUBLICATIONS

| | |
|---|---|
| March 2017 | *An Adaptive & Integrative Knowledge Base Expert Suite for the Screening of Intellectual Disabilities*, IEEE Region 1 Conference |
| March 2017 | *The Relationship Between Handwriting & Reading in Autism;* results showing handwriting and reading correlations in children with autism have improved literacy instruction and student performance in 11 Integrated Co-Teaching classrooms in Brooklyn, New York |

## TECHNICAL REPORTS

| | |
|---|---|
| 2017 | Principal Researcher, *Source Code Vulnerabilities & Improvements to the SDLC*, LIU IEEE CS & LIU IEEE SMC (December 2017) |
| 2017 | Co-Author, *Security Vulnerabilities of Bitcoin Technology*, LIU IEEE CS & LIU IEEE SMC (November 2017), with P. Jangam |

## PRESENTATIONS

| | |
|---|---|
| May 2018 | Public School 7, *Audio-Visual Simulation for Children with Hearing & Learning Difficulties through Music* |
| May 2018 | IEEE Systems, Man, and Cybernetics Society Student Branch, *Introduction to Big Data Clustering using Voronoi Diagrams and the* K*-means Algorithm* |
| May 2018 | LIU, *Analysis & Demonstration of Common Object Request Broker Architecture* |
| March 2018 | IEEE Region 1, *The Relationship Between Handwriting & Reading in Autism* |
| March 2018 | IEEE Region 1, *An Adaptive & Integrative Knowledge Base Expert Suite for the Screening of Intellectual Disabilities* |

| | |
|---|---|
| March 2018 | New York Institute of Technology, IEEE Computer Society Student Branch, *Relating Introspective Abilities to Enhance Special-Needs Literacy Education* |
| Dec. 2017 | IEEE Computer Society Student Branch, *Source Code Vulnerabilities & Improvements to the SDLC* |
| Dec. 2017 | IEEE Systems, Man, and Cybernetics Society Student Branch, *Methods for Improving Domain-Specific Knowledge Bases for Expert Systems* |
| Nov. 2017 | IEEE Computer Society Student Branch, *Security Vulnerabilities of Bitcoin Technology* |
| July 2015 | Microsoft NY, *An Introduction to Data Searching & Sorting Algorithms*<br>Introduced stability, time and space complexities of several sorting algorithms, the formal notational methods for stating the growth of resource needs (Big-O, Little-o, Theta, and Omega notations), and programming in MIX, JavaScript, and Java, and performance profiling tools. |

## AWARDS

| | |
|---|---|
| 2018 | Department of Business, Public Administration, & Information Science Faculty Award, Long Island University |
| 2018 | B.Sc. of Computer Science Excellence Award, Long Island University |
| 2018 | IEEE R1 Student Paper Winner 2018, *An Adaptive & Integrative Knowledge Base Expert Suite for the Screening of Intellectual Disabilities* |
| 2018 | Dean's List |
| 2017 | Dean's List |

## ACADEMIC & PROFESSIONAL SERVICE

| | |
|---|---|
| 2018 – | Reviewer, *International Journal of Creative Computing (IJCrC)* |
| 2018 – | Board Member, LIU & Department of Education Early College Initiative |
| 2018 – | Curriculum Developer, ACM Computer Science Teachers Association |
| 2017 – | Member, LIU IEEE Computer Society |
| 2017 – | Member, Association for Computing Machinery (ACM) |
| 2017 – | Member, Institute of Physics (IOP) Computational Physics Group<br>Member, IOP Quantum Electronics and Photonics Group<br>Member, IOP Women in Physics Group |
| 2017 | Member, LIU Student Branch for Systems, Man, and Cybernetics Society |