

Rushi Shah

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Education

- May 2020 **University of Texas - Austin, Turing Scholar Honors Program**
B.S. Computer Science & B.S. Mathematics; **GPA: 3.83**
- May 2016 **Thomas Jefferson High School for Science and Technology (TJHSST)**

Work Experience

- Summer **UT Program Analysis Research Group, Research Assistant, Austin**
2019
 - Presented paper called “*Synthesizing Database Programs for Schema Refactoring*” (third author) at top-tier Programming Languages Design and Implementation 2019 conference
 - Implemented research prototype tool in Java programming language for forthcoming top-tier conference submission called “*Data Migration using Datalog Program Synthesis*” (second author)
- Spring **CS 389L Automated Logical Reasoning (graduate level class), Teaching Assistant**
2019
 - Served as Teaching Assistant for 60 Master’s and Ph.D. students; graded weekly proof-based homeworks; held well-attended weekly office hours; helped grade midterm and final exam
- Summer **Amazon, Software Engineering Intern, Tokyo, Japan**
2018
 - Elegantly reduced the task of tracking real-time, location-based purchase trends in Amazon order data to leverage an edge-detection algorithm (a traditional machine vision technique)
 - Implemented a service based on above approach using the Java programming language, the Python programming language, the OpenCV library, and Amazon Web Services tools like S3 and EC2
- Summer **Originate, Software Engineering Intern, New York City**
2017
 - Worked at this software consulting firm in Manhattan on a data center workload analysis contract
 - Generalized and patched distributed computing scripts by coding in the Scala programming language with the Spark framework over Cassandra databases
- Summer **MITRE Corporation, Research Assistant, Washington DC**
2014, 2015
 - Worked for the Federal Aviation Administration (FAA) at this federally-funded R&D center to improve the Closed Runway Operations Prevention Device (CROPD) which prevents plane crashes
 - Adapted computational linguistics algorithms to call-sign identification task in over 25,000 transmissions; edited strict language model based on air traffic controller’s emerging speech patterns

Publications

- Exp. 2020 **Data Migration using Datalog Program Synthesis**, Yuepeng Wang, [Rushi Shah](#), Abby Criswell, Rong Pan, Isil Dillig, *In Submission*
- June 2019 **Synthesizing Database Programs for Schema Refactoring**, Yuepeng Wang, James Dong, [Rushi Shah](#), Isil Dillig, *Programming Languages Design & Implementation*

Leadership

- May 2019 **Physics/Math/Astronomy Board for Student Advocacy, Math Initiative Lead**
Present
 - Strengthened math major community by increasing communication and relationships between the following niche organizations: the UT (Pure) Math Club, the Society for Industrial & Applied Mathematicians, the Actuarial Science Club, and the Science Teachers of Tomorrow
- Sept. 2017 **Information Systems & Security Society (ISSS), Communications Officer**
- May 2018
 - Coordinated weekly messaging for UT’s largest Computer Science organization; informed >300 members about Computer Security events like speaker panels and Capture the Flag competitions

Community Service

- Jan. 2017 **TX Votes (non-partisan civic engagement)**, *STEM Committee Chair*, 10-12 hrs/wk
Present
 - Threw voter registration drive in Computer Science building; one student registered for every three minutes spent tabling
 - Co-hosted four *Tech & Politics Speaker Series* events with Austin Tech Alliance; invited speakers include Professor Hovav Shacham (Computer Security expert who spoke on integrity of voting systems) and Mark Strama (head of Google Fiber West who spoke on tech lobbying efforts)
 - Trained as Volunteer Deputy Registrar (VDR) and personally registered over 250 voters
- Sept. 2017 **Seva Charities**, 1-3 hrs/wk
- May 2018
 - Fundraising efforts go towards mid-day meals at schools for low/no-income students in India
 - Went viral on Snapchat for juggling potatoes at Seva Week fundraiser
 - Active participant in local park cleanup, food bank volunteering, & annual charity gala
- Jan. 2017 **Big/Little Endian Turing Mentoring**, <1 hr/wk
Present
 - Formally (Big/Little Endian program) and informally mentor underclassmen/prospective Turing Scholars with guidance on getting involved in research, recruiting, and best/worst campus activities

Speaking Engagements

- Dec. 2018 **Moderator**, *Tech & Politics Speaker Series*, Prof. Hovav Shacham on Election Security
 - Moderated public conversation with Prof. Shacham on his hacking of airport metal detectors, car computers, & California's election systems, along with the policy implications of his research
- Nov. 2018 **Speaker**, *Math Directed Reading Symposium*, "Gerrymandering Considered Harmful"
 - Presented math research survey relating to numeric methods for computing the unfairness of a given election district, along with relevant policy considerations at local, state, and federal level
- Apr. 2018 **Speaker**, *Turing Lightning Talks*, "Voting! For fun & profit."
 - Presented to Turing Scholar audience about how STEM students at UT vote at rates about 10% lower than average UT students and empirically motivated why they should work to change that
- February 2018, 2019 **Moderator**, *Great Conversations Gala*, Annette Strauss Institute For Civic Life
 - Designated to lead discussion on the technology table at annual charity gala for Annette Strauss Institute For Civic Life; guided conversations about evolving role of technology in civic engagement

Extracurricular Activities

- Sept. 2018 **UT Saaya Competitive Bollywood Fusion Dance Team**, 17-26 hrs/wk
- May 2019
 - Danced in South Indian, Bollywood, and Bhangra segments of nationally competitive performance
- Sept. 2017 **Longhorn Salsa Dance Club**, 1-3 hrs/wk
Present
 - Familiar with Salsa, Bachata, Casino, and Zouk dance styles
- Sept. 2017 **UT Rock Climbing Competitive Team**, 10-11 hrs/wk
- May 2018
 - Southwest Regional level competitor; proficient in outdoor bouldering and outdoor sport climbing

Awards & Honors

- 2019 **Undergraduate Research Fellow**, *UT Office Undergraduate Research*
- 2019 **VDR 100 Club Award**, *Travis County Tax Office*, for registering 168 voters in one cycle
- 2019 **Eva Stevenson Woods Scholarship**, *UT Unrestricted Endowed Presidential Scholarship*
- 2016 **Gregg & Mariko Zeitlin Scholarship**, *UT Unrestricted Endowed Presidential Scholarship*