Rushi Shah

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Education

Ongoing **Harvard Law School**
J.D. in progress, joint program with Princeton

Ongoing **Princeton University**, *Center for Information Technology Policy (CITP)*
Ph.D. Computer Science in progress, joint program with Harvard

May 2020 **University of Texas - Austin**, *Turing Scholar Honors Program*
B.S. Computer Science & B.S. Mathematics

May 2016 **Thomas Jefferson High School for Science and Technology (TJHSST)**

Work Experience

Summer 2019 **UT Program Analysis Research Group**, *Research Assistant*, Austin
- Presented paper called *"Synthesizing Database Programs for Schema Refactoring"* (third author) at top-tier Programming Languages Design & Implementation (PLDI) conference
- Implemented prototype tool in Java programming language for paper called *"Data Migration using Datalog Program Synthesis"* (second author) in top-tier Very Large DataBases (VLDB) conference

Spring 2019 **CS 389L Automated Logical Reasoning (graduate level class)**, *Teaching Assistant*
- 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 2018 **Amazon**, *Software Engineering Intern*, Tokyo, Japan
- 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 2017 **Originate**, *Software Engineering Intern*, New York City
- 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 2014, 2015 **MITRE Corporation**, *Research Assistant*, Washington DC
- 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

Sept. 2020 **Data Migration using Datalog Program Synthesis**, Yuepeng Wang, Rushi Shah, Abby Criswell, Rong Pan, Isil Dillig, *Proceedings on Very Large DataBases (VLDB '20)*

March 2020 **Texas Felon Disenfranchisement Enables Institutional Racism**, Rushi Shah, *The Daily Texan*

June 2019 **Synthesizing Database Programs for Schema Refactoring**, Yuepeng Wang, James Dong, Rushi Shah, Isil Dillig, *Programming Languages Design & Implementation (PLDI '19)*

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

Leadership

Jan. 2017 – Present **TX Votes (non-partisan civic engagement)**, *STEM Committee Chair*
- 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

May 2019 – Present **Physics/Math/Astronomy Board for Student Advocacy**, *Math Initiative Lead*
- 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 – May 2018 **Information Systems & Security Society (ISSS)**, *Communications Officer*
- 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

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*