

Sanket Kanjalkar

CONTACT INFORMATION	Second Year Student, Master of Science(Expected Graduation: May-2020) sanket1729@gmail.com Department of Computer Science +1-217-721-7898; sanket1729.github.io University of Illinois at Urbana-Champaign https://www.linkedin.com/in/sanket1729
INTERESTS	Bitcoin and Blockchains , Applied Cryptography, Computer Security, Machine Learning
EDUCATION	University of Illinois at Urbana-Champaign 4.0/4.0 Master of Science, Computer Science, 2018-2020 A+ in all courses Indian Institute of Technology (IIT), Bombay, India 8.99/10 B.Tech with Honors, Computer Science and Engineering, 2012-16
PUBLICATION	I can't believe it's not Stake: Resource exhaustion attacks on Proof of Stake currencies; <i>S. Kanjalkar, Y.Li, J.Kuo, A. Miller; (Financial Crypto'19, St.kitts)</i> pdf
RELEVANT WORK EXPERIENCE	Blockstream Reseach Research Intern <i>May'19 - Aug'19</i> <ul style="list-style-type: none">Research and development of Minisript, a new language for writing bitcoin scriptsImplemented an open source library called rust-miniscript written in rust which allows smooth interoperation between wallets from different vendors University of Illinois at Urbana-Champaign Graduate Research Assistant <i>Aug'18 - Present</i> <ul style="list-style-type: none">Lead the project to responsibly disclose resource exhaustion vulnerabilities affecting several currencies having a total of 2.6 B USD market cap <i>Aug'18-Jan'19</i>Evaluating the security and privacy of lightning network, an off-chain Layer-2 scaling solution for bitcoin against denial of service and payment inference attacks <i>Dec'19 - Present</i>Teaching assistant for Applied Cryptography (<i>Fall '19</i>) and Intro to CS (<i>Fall' 18</i>) SAMSUNG Associate Software Engineer, Seoul HQ, Korea, DTV Security <i>Aug'16 - June'18</i> <ul style="list-style-type: none">Software development: Designed a distributed system from scratch via Enterprise Architect and implemented it across multiple machines with rpc support via rabbitMQ, Spring framework for webserver, postgresql/hibernate for database with CI/TDD.Data Analytics: Automated Weekly Security Status report generation based on analytics on TV security reports from tens of thousands of Smart TVs worldwide.Devops/Reliability: Ensured smooth deployment, maintainance and high availability of appx. 15 systems in production. SAMSUNG Research Intern, Visual Display <i>May - Jul '15</i> <ul style="list-style-type: none">Performed qualitative research on methods to determine a trust metric using Machine Learning for an IoT(Internet of Things) device in an IoT ecosystem. Recieved Pre-placement Offer for my work.
SELECTED PROJECTS	Undergraduate Dissertation IIT Bombay, July'15-Mayc'16 Static Analysis of programs for checking malicious behavior using clustering techniques on control flow graphs of programs. SVM in Zero Knowledge UIUC, Aug-Dec'18 Any prover can convince the verifier that the SVM classifier classifies a known dataset with a certain accuracy without revealing any secret weights used in the classifier. Vandalism detection using car OBD port Carsense Technologies, Jun-Aug'16 Implemented logic for detecting vandalism, towing and gps location tracking on STM32 IC in low level C for an embedded device connected to OBD port of the car.
TECHNICAL SKILLS	Programming: Rust, C, C++, Java EE, Python, Shell, Matlab, SQL Frameworks/Tools: Spring, Enterprise Architect, Hibernate, PyTorch, RabbitMQ
RELEVANT COURSES	(Grad)Applied Cryptography(A+), Computer Security(A+), ML(A+), Formal methods(A+) (Undergrad) Data Structures/Algo, Graph Theory, Linear Optimization, AI, Reinforcement learning
ACHIEVEMENTS	<ul style="list-style-type: none">Awarded 15,000\$ by the QTUM foundation for responsible disclosure of security vulnerability.Recieved full scholarship (4000\$) to attend the workshop of Programming BlockchainCo-organizer of Seoul Bitcoin Meetup with over 2200 members. Conducted tens of technical presentations on bitcoin and 1 hands on developer workshop about Bitcoin Scripts <i>2016-2018</i>Secured All India Rank 29 in IIT-JEE <i>2012</i>