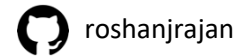


# Roshan J. Rajan

847-903-4791 [rjrajan2@illinois.edu](mailto:rjrajan2@illinois.edu)  
[roshanjrajan.me](http://roshanjrajan.me)



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## EDUCATION

B.S. in Computer Engineering – December 2018

- *University of Illinois at Urbana-Champaign*, Illinois, U.S.
  - Courses: Distributed Systems, Data Structures, Algorithms and Models of Computation, Computer Systems Engineering, Database Systems, Programming Languages and Compilers, Computer Security

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## WORK and RESEARCH EXPERIENCE

- Amazon* Software Developer Engineer Intern Summer 2018
- Designed and implemented a Python dashboard service to manage internal processes
  - Developed production level code and health monitoring to ensure scalability and maintenance of service
  - Collaborated with project team to coordinate tasks for pipelined service from code to production
- Trustwave* Software Engineering Intern Spring 2018
- Conceptualized and implemented alternate data storage method using Neo4j Graph Database
  - Resolved security risk on document access in Elasticsearch and Kibana usage with Read-Only Rest
  - Streamlined automated data retrieval and analysis using an Apache NiFi and Oozie integration
- NCSA BDEEP* Intern Summer 2017
- Developed pipelined R Scripts to optimize model performance for accurate analysis of multiple datasets
  - Collaborated with research team to maintain project specifications for model implementation
  - Created a model development method to increase throughput for future team's model creation
- NCSA SPIN* Intern Summer 2017
- Utilized TensorFlow Deep Learning objects for creating deep learning frameworks on the PYNQ Board
  - Created Python and Bash scripts to automate user experience when developing new TensorFlow models
  - Overcame resource limitations of the PYNQ Board to maximize model performance
- Northrop Grumman* Engineering Intern Summer 2016, Winter 2016 - 2017
- Updated a 2003 VHDL/Verilog FalconEdge FPGA component to 2016 equivalent
  - Redesigned IP Cores and developed self-checking testbench to promote future development
  - Reprogrammed a PLL using an AXI Interface and IIC bus to control output clock frequency
  - Communicated to develop thorough documentation for transceiver and receiver components

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## PROJECTS

- Jump Genesis* – TokenSim (Awarded: 1<sup>st</sup> place) April 2018
- Designed a new simulation tool to be used by cryptocurrency companies to develop token economies
  - Worked with blockchain mentors and collaborated with my team to pitch TokenSim to Jump Capital
- Jane Street ETC* (Awarded: 2<sup>nd</sup> Overall and 3<sup>rd</sup> in Power Hour) September 2017
- Programmed an AI to make High-Frequency Market exchanges based on a simulated market
  - Formulated and analyzed various market exchange strategies to maximize returns
- SCC* – Student Cluster Competition Co-Captain at Super Computing Conference Spring 2017 - Present
- Designing cluster configurations to deal with SC 17/18 HPC applications to optimize performance
  - Leading the team to deal with planning strategy, accuracy and other constraints for SCC

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## LEADERSHIP and ACTIVITIES

- Student Cluster Competition Co-Captain Spring 2017 - Present
- Reflections Projections Speaker Chair Fall 2015 – Fall 2016
- Innovation LLC Peer Leader Fall 2016 – Spring 2017
- SIGPwny Member Fall 2015 – Fall 2017

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## SKILLS

Programming – C++, C, Java, Python, R, x86, HTML/CSS, Mathematica, CUDA, System Verilog  
Technologies – Git, TensorFlow, AWS, MPI, Hadoop, NiFi, Oozie, Neo4j, Elasticsearch, Logstash, Kibana, MySQL