

# Md Rubel Ahmed

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## SUMMARY

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- Motivated researcher for secure, efficient, and evolvable computing system.
- Current exposure is on the specification mining of reactive systems.
- Solid background in FPGA Design.
- Expertise in MIPS32.
- Experienced in teaching and conducting Computer Architecture course.

## EDUCATION

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### Doctor of Philosophy in Computer Science and Engineering

University of South Florida, Tampa, FL

*Exp. Dec. 2023*

CGPA: 3.80/4

### Bachelor of Science in Computer Science and Engineering

Khulna University of Engineering and Technology, Bangladesh

*March 2017*

CGPA: 3.23/4

## TECHNICAL STRENGTHS

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<b>Programming Languages</b>	C/C++, Verilog, VHDL, Python, Java
<b>EDA Tools</b>	Mentor: ModelSim
	Xilinx: ISE Webpack, Vivado HLx
<b>Architectural Simulator</b>	SimpleScalar and Mars
<b>Miscellaneous</b>	Bash Script, Tcl, Spin model checker

## EXPERIENCE

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### Research/Teaching Assistant

University of South Florida

*August 2018 - Present*

- Taught Computer Architecture course at the Dept. of CSE, USF (Summer 2019)
- Assisted students with the courses Computer Architecture, Software Engineering, FPGA Design, Web Systems for IT.

### Software Engineer

*Nov 2017 - July 2018*

Synchronous ICT

- Developed systems for real time conferencing
- Multimedia processing using FFMPEG.
- Worked for data driven mobile app using React Native.

## ACADEMIC PROJECTS

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- **>128 bit prime factorizer** : Designed FPGA implementation of prime factorizer for larger numbers >128 bit using VHDL and implemented on Zedboard.
- **Single Cycle Processor**: Designed a single cycle processor with ALU, and multibank main memory in logisim and tested with.
- **Memory system performance analysis**: Analyzed memory system performance using M5 simulator and 4 SPEC-CPU2000 benchmarks.
- **Addition and Multiplication matrix operations**: Designed an FSM controller to implement the multiplication and addition logic using Vivado and prototyped on Zed board.

## PUBLICATIONS/POSTERS

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- Amit Sutradhar, Md. Samiul Haque Sunny, Manash Mandal, **Rubel Ahmed**, "Design and construction of an automatic electric wheelchair: An economic approach for Bangladesh, 2017 3rd International Conference on Electrical Information and Communication Technology (EICT)
- Md Rubel Ahmed, Yuting Cao, Hao Zheng, "Specification Mining For SoC Validation Using Data Mining Techniques", 56<sup>th</sup> Design and Automation Conference (DAC), Jun 2019.(Poster)
- Md Rubel Ahmed, Yuting Cao, Hao Zheng, "Specification Mining From Message Flow For SoC Validation", 2019 FICS Research Conference on Cybersecurity, Mar 2019.(Poster)

## AWARDS/ACTIVITIES

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- A.Richard Newton Young Student Fellowship award 2019 from Design Automation Conference.
- Trainer for contest programming in KUET, Bangladesh.