

## Archit Gajjar

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| CONTACT<br>INFO       | Address: Delta (D132), 2700 Bay Area Blvd. Houston, Texas 77058<br>Email: <a href="mailto:architgajjar8464@gmail.com">architgajjar8464@gmail.com</a> / <a href="mailto:GajjarA7402@uhcl.edu">GajjarA7402@uhcl.edu</a><br>Web: <a href="http://www.architgajjar.com">www.architgajjar.com</a>  |
| RESEARCH<br>INTERESTS | <ul style="list-style-type: none"><li>• Approximate Design on Fog/Edge System</li><li>• Energy-Quality (E-Q) Tradeoff on ASIC/FPGA Design</li><li>• VLSI, ASIC/FPGA, IoT, Embedded Systems hardware design</li></ul>  |
| EDUCATION             | <p><b>Uni. of Houston - Clear Lake (UHCL)</b>, Houston, TX Expected: May 2019<br/>M.S., Computer Engineering <b>GPA: 3.9/4.0</b></p> <ul style="list-style-type: none"><li>• Thesis: Towards a Novel Edge Computing Platform Integrated with FPGA and IoT mesh Network: A Case Study of a Smart System</li><li>• Advisor: Xiaokun Yang, Ph.D.</li></ul> <p><b>Dhirubhai Ambani Institute of Information and Communication Technology</b>,<br/>Gujarat, India 2016<br/>B.Tech., Information and Communication Technology GPA: 5.6/10.0</p> <ul style="list-style-type: none"><li>• Project: Low-Cost Security System Using Off the Shelf Components</li><li>• Advisor: Biswajit Mishra, Ph.D.</li></ul>  |
| WORK<br>EXPERIENCE    | <p><b>Graduate Teaching Fellow &amp; Research Assistant</b> January 2019 – Present<br/>Computer Architecture &amp; Lab for Computer Architecture<br/>Department of Engineering, UHCL</p> <p><b>Research &amp; Teaching Assistant</b> August 2017 – December 2018<br/>Electronics, Lab for Electronics, Advanced Digital System Design, Computer Architecture<br/>&amp; Lab for Computer Architecture<br/>Department of Engineering, UHCL</p> <p><b>System Developer Intern</b> May 2015 – October 2015<br/>Inweon IT Innovations Pvt. Ltd. Greater Noida, India<br/>Using Visual Studio and OpenCV, a code was developed to find the length of rice from<br/>the provided image. Later, Raspberry pi micro-controller was set up to perform the code<br/>remotely.</p> <p><b>Intern</b> December 2014 – January 2015<br/>QX KPO Services Pvt. Ltd. Ahmedabad, India<br/>For one month, gained knowledge about OSI (Open Systems Interconnection) model in the<br/>field of network and communication along with practical implementation.</p> |
| SKILLS                | <p><b>Programming Languages:</b></p> <ul style="list-style-type: none"><li>• Verilog, VHDL, Python, C, C++, HTML</li></ul> <p><b>Tools:</b></p> <ul style="list-style-type: none"><li>• Arduino, Keil, LTSpice, Raspberry Pi, Beagle Bone Black, OpenCV, Vim, Latex, FPGA,<br/>NI Multisim, ModelSim, MATLAB, Xilinx ISE, Vivado</li></ul>  |

- PUBLICATIONS**
- (C) K. Vaca, **A. Gajjar**, X. Yang, et al., "Real-Time Automatic Music Transcription (AMT) with Zync FPGA," IEEE Computer Society Annual Symposium on VLSI (ISVLSI), Under Review, 2019.
  - (C) **A. Gajjar**, X. Yang, H. Koc, et al., "Mesh-IoT Based System For Large-Scale Environment," 5th Annual Conf. on Computational Science & Computational Intelligence (CSCI2018), Accepted , In Press, 2018. (**Acceptance Rate: 23.00%**)
  - (J) X. Yang, L. Wu, **A. Gajjar**, et al., "A Vision of Fog Systems with Integrating FPGAs and BLE Mesh Network," Journal of Communications (ISSN: 1796-2021), Vol. 14, No. 3, pp. 210-215, 2019.
  - (C) **A. Gajjar**, X. Yang, et al., "An FPGA Synthesis of Face Detection Algorithm using HAAR Classifiers," Intl. Conference on Algorithms, Computing, and Systems (ICACS2018), PP.133-137, July 27-29, Beijing China, 2018.
  - (C) Y. Zhang, X. Yang, **A. Gajjar**, et al., "Exploring Slice-Energy Saving on An Video Processing FPGA Platform with Approximate Computing," Intl. Conference on Algorithms, Computing, and Systems (ICACS2018), PP.138-143, July 27-29, Beijing China, 2018.
  - (J) Y. Zhang, X. Yang, **A. Gajjar**, et al., "Hierarchical Synthesis of Approximate Multiplier Design for Field-Programmable Gate Arrays (FPGA)-CSRmesh System, Intl. Journal of Compt. Applications (IJCA), Vol. 180, No. 17 PP. 1-7, Feb. 2018.
  - (C) **A. Gajjar**, Y. Zhang, and X. Yang, Demo Abstract: A Smart Building System Integrated with An Edge Computing Algorithm and IoT Mesh Networks, The Second ACM/IEEE Symposium on Edge Computing (SEC2017), Article No. 35, Oct. 2017.
- EVENT PRESENTATIONS**
- **A. Gajjar**, X. Yang, et al., "Mesh-IoT Based Smart and Secure Monitoring System for Wide-Range Territory," IEEE Innovation and Automation Conference, Gilruth Recreation Center, NASA-JSA, Houston, November, 2018.
  - X. Yang, Y. Zhang, **A. Gajjar**, H. Schmoyer, and N. Ly, "Learning-on-Chip: Facial Detection with Approximations of FPGA Computing," Houston Robotics and AI Day, UHCL, August 2018.
  - **A. Gajjar**, X. Yang, Poster presentation A Wide Area IoT Mesh Network With Edge Computing, IEEE Innovation and Automation Conference, Gilruth Recreation Center, NASA., October 2017.
  - **A. Gajjar**, X. Yang, Poster presentation A Smart Home/Building System Integrated with An Edge Computing Algorithm and CSRmesh Networks, Houston Robotics and AI Day, July 2017.
- ACADEMIC PROJECTS**
- **Low Cost Security System Using Off the Shelf Components** January 2016 – April 2016  
A security system capturing image of an intruder and informing to the designated person.
  - **Research Intern** May 2016 – July 2016  
Gained knowledge of Cadence Encounter, tickle files, optimization.
  - **Surveillance Bot** January 2015 – April 2015  
A live video stream from a manually controlled surveillance robot.
  - **5-Stage Pipeline processor** July 2014 – November 2014  
Basic 5-stage pipelined processor development.
- HONORS AND AWARDS**
- Member, The National Society of Leadership and Success, August 2018 (Invited)

- Research Scholarship Award (\$1300), Dr. Ted Leibfried Legacy, UHCL, July 2018 **(2/100 Students)**
- Graduate Student Ambassador, College of Science & Engineering, UHCL, 2018 **(2 Students out of CENG Program)**
- Member, Phi Kappa Phi Honor Society, UHCL, April 2018 (Invited)
- Research/Teaching Assistant Scholarship, UHCL, 2017-2018
- NSF Student Travel Grant Award (\$800), SEC, 2017
- Leadership Honor, Omicron Delta Kappa(ODK), Hilary Jo Karp Circle Honor Society, November 2017

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| VOLUNTEER<br>EXPERIENCE | • Secretary, Executive Officer, IEEE SB UHCL                               | 2018           |
|                         | • International Student Orientation Leader, UHCL                           | 2017 & 2018    |
|                         | • IEEE Member  | 2013 – Present |
|                         | – Leader of Special Interest Group on Microcontrollers, IEEE SB DA-IICT    |                |
|                         | – I’Fest, Mentor, IEEE SB DAIICT   |                |
|                         | – TENSYP’15 Volunteer, Region 10 IEEE International Conference, India      |                |
|                         | – I’Fest, Event Coordinator  |                |
|                         | – Teaching Assistant, Workshop on Embedded System and Arduino, PDPU, India |                |

REFERENCES • References are available on request.