Sachille Atapattu

Curriculum Vitae **PhD Student, Cornell University**

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Topics of Interests

Heterogeneous systems,
domain specific architectures,
programming models for accelerators.

Education

2017– Present **Cornell University**, *Ithaca NY, United States.*
PhD. in Electrical and Computer Engineering **Advised by Adrian Sampson**- *Current GPA 4.00*

2010–2015 **University of Moratuwa**, *Katubedda, Sri Lanka.*
BSc. Eng Hons first class in Electronic and Telecommunication Engineering

2011-2014 **Chartered Institute of Management Accountants**, *United Kingdom.*
Passed Finalist

2001–2009 **Royal College**, *Colombo 7, Sri Lanka.*

Employment

Summer 2020 **Intel Corporation**, *Deep Learning Software Intern.*

2015–2017 **Paraqum Technologies**, *Electronic Engineer.*

2015–2016 **Wave Computing**, *Hardware Engineering Consultant.*

2014 **University of Western Ontario- Sightline Innovation Research Lab in Computer Vision and Machine Learning**, *Undergraduate Researcher.*

Summer 2013 **John Keells Holding, Ceylon Tobacco Company and Hongkong and Shanghai Banking Corporation**, *Fast Track 15 Summer Intern.*

2011-2013 **LeeF Innovation**, *Co-founder.*

Teaching

Fall 2018 **Graduate teaching assistant**, *Cornell University.*
Embedded Systems

Publications

2020 Rachit Nigam, **Sachille Atapattu**, Samuel Thomas, Theodore Bauer, Apurva Koti, Zhijing Li, Yuwei Ye, Adrian Sampson, Zhiru Zhang. **Predictable Accelerator Design with Time-Sensitive Affine Types**. In PLDI:*Programming Language Design and Implementation 2020, London, United Kingdom*

2017 R. Senanayake, Namitha Liyanage, S. Wijeratne, **Sachille Atapattu**, K. Athukorala, P. M. K. Tharaka, G. Karunaratne, R. M. A. U. Senarath, Ishantha Perera, A. Ekanayake and Ajith Pasqual. **High performance hardware architectures for Intra Block Copy and Palette Coding for HEVC screen content coding extension**. In ASAP:*IEEE 28th International Conference on Application-specific Systems, Architectures and Processors, Seattle, WA, United States*

2016 **Sachille Atapattu**, Namitha Liyanage, Nisal Menuka, Ishantha Perera and Ajith Pasqual. **Real Time All Intra HEVC HD Encoder on FPGA**. In ASAP:*IEEE 27th International Conference on Application-specific Systems, Architectures and Processors, London, United Kingdom*

Research

2020-Present ***ConSyArch: Configurability trade-off for systolic machine learning accelerators on FPGAs.***, *Cornell University*.
This ongoing work quantifies the cost of configurability on systolic array architectures.

2018-2019 ***Dahlia: An Agile, Low-Level Accelerator Design Language with types***, *Cornell University*.
Dahlia uses types to supervise memory management and other optimizations on FPGA accelerators. I contributed by evaluating the language against state-of-the-art tools.

2017 ***Effective Design Space Exploration for CNN Using Domain Specific Languages***, *Cornell University*.
I evaluated and explored characterization of CNNs in TVM as part of a course in High-level digital design automation.

2015-2017 ***HEVC hardware encoder on FPGA***, *University of Moratuwa & Paraqum Technologies*.
An all-intra HD encoder on FPGA is offered by Paraqum technologies. I contributed to reduce computational complexity by predicting HEVC quad-tree structure early. I then lead a team to add screen content coding extensions.

2014 ***Perspective correction for images in a factory setting***, *University of Western Ontario*.
I developed a technique to translate oblique images to a common perspective to increase accuracy of a vision system.

Awards

2017 Cornell University, Jacobs Scholar Fellowship in ECE

2014 Awarded Country-finalist CFA Institute Research Challenge

2011 Awarded Runners up at HSBC- British Council Youth Enterprise Awards

2010 Awarded Mahapola Higher Education Merit Scholarship for best performing students at G.C.E.(A/L) Examination 2009

2004 Awarded Gate Mudalier Tudor Rajapakse memorial prize- Royal College

Interests

Hobbies Travel, Reading and Cycling

Giving back 'Inspirer 2012'- A programme of workshops to encourage English learning in rural schools in Sri Lanka, 'Sipsarana'- An organization to develop infrastructure in extremely underprivileged schools in Sri Lanka

This curriculum vitae was updated on March 22, 2021