

Master Students

(co-)supervised by Henk Corporaal

Eindhoven University of Technology (TU/e)

corporaal.org

Updated March 2019

Note: in the following list we use the abbreviations:

- ES: Embedded Systems Master at TU/e
- EE: Electrical Engineering Master at TU/e



Graduated Master students, TU/e

1. **Janek van Oirschot**, ES, March 2019
Automatic generation of a fast peephole optimizer for LLVM
With Microsoft Cambridge UK
2. **Jeroen Gubbels**, EE, 2019
Radiation measurement using COTS cameras
Part of the PR3 rocket project (see pr3.space)
3. **Shihua Huang**, ES 2019
Flexibility metric for processors
4. **Ian Zhang**, ES 2018
Polly loop transformations using Machine Learning
With TUBerlin
5. **Xin Xu**, ES 2018
X-ray imaging
With Philips Eindhoven
6. **Louis van Harten**, EE 2018
Low cost radio interferometry
Part of the PR3 rocket project (see pr3.space)
7. **Justing Brouwer**, ES 2018
CGRA architecture generation

8. **Jeroen Biesbroeck**, ES, 2018
CNNs for radar images
With NXP
9. **Sander Walstock**, ES, 2018
CGRA multiprocessor communication and synchronization
10. **Rick Veens**, ES 2018
WCET estimation
With SPACEBEL Liege, Belgium
11. **Guus Leijsten**, ES, 2018
SIMD LLVM backend
12. **Joep Roebroek**
Cognitive Neural Networks, ES, 2017
13. **Zhenyuan Liu**, ES, 2017
SIMD compiler
14. **Kanishkan Vadivel**, ES 2017
CGRA compiler
15. **Barry de Bruin**, ES, 2017
Applicability of CNNs for Intel DSPs
16. **Arno Tiemersma**, ES, 2017
Constrained based code generation for CGRAs
17. **Vishnu Pasupula**, ES, 2016
Scheduling and optimization of production printers
With Océ Venlo
18. **Sandeep Poddar**, ES, 2016
SKA Power Modelling
With ASTRON Dwingeloo
19. **Jos IJzerman**, ES, 2016
Vector support for Convolutional Neural Networks on Transport Triggered Architectures
With Tampere University of Technology, Finland
20. **Michael Adriaansen**, ES, 2016
LLVM based Compiler support for CGRAs (Coarse Grain Reconfigurable Arrays)
21. **Mattia Fiumara**, EE, 2016
Convolutional Neural Networks on SIMD systems

22. **Sander Vocke**, ES, 2016
Halide to C to SiliconHive / Intel Image Processing Unit
With Intel Eindhoven
23. **Jumana Mundichipparakkal**, ES, 2016
Fast binary simulation by binary translation
With Intel Eindhoven
24. **Bart van Dongen**, EE, 2016
Video distribution system
With Prodrive Eindhoven
25. **Stef van Son**, ES, 2016
OpenVX support for Intel processing platform
With Intel Eindhoven
26. **Stef Louwers**, ES, 2016
Multi-granularity arithmetic for CGRAs
27. **Roel Oomen**, EE, 2016
Technology scaling prediction
With IMEC Eindhoven
28. **Ozgun Yalcinkaya**, ES, 2016
Video (TV) enhancement
With Sigma-Design, Waalre
29. **Gaurav Raina**, ES, 2016
Mapping Convolutional Neural Networks on a Heterogeneous Multi-Core

With RECORE, Enschede
30. **Thomas Sioutas**, ES, 2015
Many core DSP system mapping support
With Prodrive
31. **Peter Koek**, EE, 2015
DLP exploitation for SDF modelled applications
With NXP
32. **Matthias Schneider**, ES, 2015
Re-entry satellites: embedded system design
With DLR (Deutsches Zentrum für Luft- und Raumfahrt), Bremen
33. **Wishnu Pramadi**, ES, 2015
Automatic code generation for the ConvNet accelerator

34. **Thieme Joziase**, ES, 2015
Face detection and tracking on GPU based system
With Altran, Eindhoven
35. **Bas Renet**, EE, 2015
Advanced debugging functionality for secure identification smart cards
With NXP, Eindhoven
36. **Grigoris Raptis**, EE, 2015
High-speed servo implementation on a hybrid (ARM/FPGA SoC) processing system
With ASML, Velthoven
37. **Han Lin**, ES, 2014
Low power memory system HW-SW co-design for wireless sensor node
With IMEC Eindhoven
38. **Miguel Emilio Oznaya Angeles**, Emb Systems, 2014
GPU-based real-time holography through time-domain signal processing
With Sorama, Eindhoven
39. **Petros Voudouris**, ES, 2014
Real-time GPU processing
40. **Wouter Ouwens**, EE, 2014
Real-time contactless vibration detection with NAH in lithography systems using a GPU.
With Sorama, Eindhoven
41. **Shyam Balasubramanian**, ES, 2013
Store-and-Forward Networking Solutions with Autonomous Aerial Vehicles
With THALES, Huizen
42. **Koen Hausmans**, ES, 2013
Reducing Synchronization Overhead by Scaling Parallel Streaming Applications
With NXP
43. **Yannick van Bavel**, ES, 2013
Advanced ultrasound beam forming using GPGPU technology
With eSaote
44. **Ruizhou Xie**, ES, 2013
Flexible memory shuffling unit for a programmable neural processor
45. **Rick Hilkens**, EE, 2013
Implementation and analysis of a real-time adaptation algorithm on an FPGA for steering a nonlinear interference suppressor
With EE-SPS

46. **Peter Broere**, ES, 2013
A memory-centric SIMD neural network accelerator: Balancing efficiency & flexibility
47. **Martijn van den Dungen**, ES, 2013
Vision-based edge tracking for area optimization
With OTB, Eindhoven
48. **Luc Waeijen**, ES, 2013
Design Space Exploration of a Low-Energy Wide-SIMD
49. **Hoisun Ng**, ES, 2013
Design and Evaluation of a Novel Programmable Accelerator for Digital Signal Processing
With IBM Zurich
50. **Luuk Mallens**, ES, 2013
A framework for data-access strategies in GPGPU programs
With VectorFabrics
51. **Sunil John**, ES, 2012
Parallel code generation for non-preemptively scheduled multiprocessor systems
With NXP
52. **Sohan Nandkumar Walimbe**, ES, 2012
Architectural leakage power minimization of scratchpad memories by application-driven subbanking
With IMEC-NL
53. **Pieter Custers**, EE, 2012
Algorithmic species: classifying program code for parallel computing
54. **Roy van Doormaal**, ES, 2012
Parallel training of large scale neural networks: Performance Analysis & Prediction
55. **Luuk Loeffen**, EE, 2012
Automated generation of IP Core wrapper for faster SoC integration using HLS
With NXP
56. **Twan Kamp**, EE, 2012
Dataflow-based Multi-ASIP Motion Control Platform on Chip
With ASML
57. **Johan Hendriks**, ES, 2012
High Level Synthesis: Performance Analysis and Code Optimization
58. **Luke Lemmen**, ES, 2012
FPGA Firmware Qualification Framework; Using AXI Interconnect and Extended Debug Facilities
With Prodrive, Eindhoven

59. **Sheng Hao Wang**, EE, 2012
Saliency Detection on FPGA Using Accelerators and Evaluation of Algorithmic Skeletons
60. **Rik Jongerius**, EE, 2012
Quantifying and Capturing the Semantics of Computational Problems in Contemporary Applications for Algorithmic Choice
With IBM research, Zurich
61. **Martien Spierings**, ES, 2011
Embedded platform selection based on the Roofline model; Applied to video content analysis
With Prodrive (together with Rob vd Voort)
62. **Rob van de Voort**, ES, 2011
Embedded platform selection based on the Roofline model; Applied to video content analysis
With Prodrive (together with Martien Spierings)
63. **Tim Vriends**, ES, 2011
Evaluation of High Level Synthesis for the implementation of Marker Detection on FPGA
64. **Xuyuan Jin**, EE, 2011
Automatic Code Generation and Adaptive Grid Scheduling for GPU Cluster Computing
65. **Levent Korkut**, ES, 2011
Hybrid Sensor Systems for Cost Efficient Egomotion Estimation
With Philips Research
66. **Shubhendu Sinha**, ES, 2011
Clustering Synchronous Dataflow Actors for finding Optimal Configuration of Configurable Hardware for Multiple Applications
With NXP
67. **Michiel Bosveld**, ES, 2011
Exploring the design space of a VLIW processor for LTE and LTE-A
With STEricsson
68. **Jarno van der Sanden**, ES, 2011
Evaluating the Performance and Portability of OpenCL
69. **Wilco Belgraver Thisse**, EE, 2011
A comparative study of optical depth sensors for user interaction
With Philips Research
70. **Jingzhou Luo**, EE, 2011
A Low Cost Programmable LIW-SIMD Coprocessor for Filters and MAC-related Algorithms
With STEricsson

71. **Mark Wijtvliet**, ES, 2011
Design of a multi-electrode fish recognition system based on changing cross-sectional resistance
With Witteveen&Bos
72. **Kris Hoogendoorn**, EE, 2011
Inter-cluster Communication on Clustered SIMD Architectures
73. **Martijn Koedam**, EE, 2011
Exploiting Inter and Intra Application Dynamism through System-Scenarios to Save Energy
74. **Ronald van Gastel**, EE, 2011
Evaluation and mapping of hierarchical-temporal memory networks on an efficient platform
75. **Tim van den Kerkhof**, EE, 2011
Real-time multi-scale TV image analysis on DSP, with application to image metrics, and control of image enhancement functions
With NXP
76. **Marc Brouns**, EE, 2010
Implementation of SIMD architecture on FPGA
77. **Rick Boer**, ES, 2010
Interactive Free Viewpoint 3D TV Rendering Platform
With Silicon Hive
78. **Atilla Filiz**, ES, 2010
Analyzing the Feasibility of Real-Time Dense Stereo on a Dual DSP setup
79. **Maurice Peemen**, EE, 2010
Mapping Convolutional Neural Networks on a Reconfigurable FPGA Platform
80. **Qiao Peng**, EE, 2010
Design and Optimization of Digital Hearing Aid System Based on Silicon Hive Technology
With Silicon Hive
81. **Joost Hausmans**, ES, 2010
Resynchronization of Dataflow Graphs
With NXP
82. **Stefan Geuns**, ES, 2010
Parallelization of While-Loops in Nested Loop Programs for Real-time Multiprocessor Systems
With NXP
83. **Zhengjie Lu**, EE, 2010
MPSoC Platform Design and Simulation for Power Performance Estimation
With STEricsson

84. **Corne Kraaij**, EE, 2010
Exploring Loop Buffers for SIMD Architectures
85. **Michiel Rooijackers**, EE, 2010
Design space exploration for scalable R-peak detection; Trading quality versus power
With Philips Research
86. **Wouter van der Put**, ES, 2010
Time-predictability of a computer system
With Prodrive
87. **Wouter van Heijningen**, EE
Testing mechatronic embedded control HW/SW using simulation and fault injection
With OCE
88. **Robert van Vooren**, EE, 2009
Observation for resource-constrained devices
89. **Bart van Stiphout**, EE, 2009
Best view selection using multiple smart cameras
90. **Gert-Jan van den Braak**, EE, 2009
Compile-time GPU Memory Access Optimizations
91. **Xicai Chen**, EE, 2009
Design Space Exploration for Hough Transform Mapped to VLIW Architecture Exploring Subword Parallelism
With Silicon Hive
92. **Roel Jordans**, EE, 2009
Integration of observation into products: a case study with the Android platform
93. **Jochem van der Meer**, EE, 2009
Analysis and design-space exploration of a dynamic interconnect for SIMD architectures
94. **Cedric Nugteren**, ES, 2009
Improving CUDA's Compiler through the Visualization of Decoded GPU Binaries
95. **She Dongrui**, ES, 2009
FPGA Platform for Emulation of Composable and Predictable MPSoC Power Management
96. **Firew Siyoum**, ES, 2009
TLM-based Multi-core System Level Modeling and Simulation (TM2S)
With Recore
97. **Willisont Hayes**, ES, 2009
Memory Pattern Generation based on Specification and Environment

98. **Zhenyu Ye**, ES, 2009
Architecture Exploration for Parallel Processing Systems
99. **Julian Pallares Garcia**, Erasmus Valencia, 2009
POOSL on Transputers
Erasmus student
100. **Haibin Wang**, ES, 2009
Modeling and Performance Analysis for Light Control Subsystem
With ASML
101. **Frank Ophelders**, ES, 2009
A Tuneable Software Cache Coherence Protocol for Heterogeneous MPSoCs
With NXP
102. **Andrew Thomas Nelson**, ES, 2009
Conservative Application-Level Performance Analysis through Simulation of a Multiprocessor System on Chip
103. **Rolf van de Burgt**, EE, 2008
Atalanta Wingman: Blimp positioning in a wireless sensor network
With DEVLAB
104. **Thom Gielen**, EE, 2008
Extracting SDF from sequential applications for MPSoC and implementation on FPGA
With NUS Singapore
105. **Alberto Falcon Garcia**, Erasmus Las Palmas, 2008
Erasmus student
106. **Michael Koch**, EE, 2008
Distributed smart camera calibration using LED
With NXP
107. **Paul Meys**, EE, 2008
Mapping a YUV to RGB application onto Cell Broadband Engine and Nvidia Geforce 8
108. **Onno Brunklaus**, EE, 2008
Implementing a scan-to-printer image chain on a massive parallel SIMD processor
With OCE
109. **Yifan He**, EE, 2008
Real-Time Hough Transform on 1-D SIMD Processors: Implementation and Architecture Exploration
With NXP

110. **Andre Boon**, EE, 2008
A Hybrid Processor Architecture for (Ir)regular Image Processing on an FPGA
With Prodrive
111. **Roy Phillipsen**, EE, 2008
PIR Model Driven Engineering
With ASML
112. **Bert van Moll**, EE, 2008
Fast and Accurate Protocol Specific Bus Modeling using TLM 2.0
With NXP
113. **Win King Wan**, ES, 2008
Evaluation and desing of multi-processor architectures
114. **Tim Drijvers**, ES, 2008
Fast Huffman Decoding by Exploiting Data level Parallelism
With Silicon Hive
115. **Abhiram Ganesh**, Exchange student Munipal, India, 2008
Gesture analysis and mapping to Xetal like platforms
116. **Raymond Frijns**, 2008
DC-SIMD : Dynamic Communication for SIMD processors
117. **Daan Alberga**, 2008
An implementation of Reactive Process Networks
118. **Rogier Thus**, 2007
Generation of Models Based on Modelling Patterns
119. **Mark Slegers**, 2007
Prototyping of Dynamic Reconfiguration in a NoC based System on Chip
With Silicon Hive
120. **Tijs Versteegde**, 2007
Development of Sesia: a VLIW Processor for Multi-Standard Turbo Decoding
With Silicon Hive
121. **Teresa Median**, Erasmus, Las Palmas, 2006
Fast modelling and analysis of NoC-based MPSoCs
Erasmus student
122. **Dai Rui**, TU/e-NUS joined master, 2005
Real time clustering and visualization of dynamic information using a massively parallel embedded processor
With OCE

123. **Michiel Oostindie**, EE, 2005
Exploring boundaries in game processing
124. **Veena Parashuram**, EE, 2005
Mapping object detection onto a heterogeneous multiprocessor vision platform
With Philips
125. **Isabel Marquez**, Erasmus, Las Palmas, 2005
Hardware Communication Services for Synchronous Data Flow in the Mini-NoC
Erasmus student
126. **Jose C. Prats Ortiz**, Erasmus, Las Palmas, 2005
Design of components for a NoC-based MPSoC Platform; Adding a shared memory node to the mNoC
Erasmus student
127. **Jos Hulzink**, EE, 2004
Optimization of Ultra Long Instruction Word processors for the Software Defined Radio (SDR) domain
With Silicon Hive
128. **Tycho van Meeuwen**, EE, 2002
Data-cache conflict-miss reduction by high-level data-layout transformations
With IMEC Leuven

Master students supervised at TUDelft

Period: Febr 1986-August 2001

1. **Anne Bezemer**
Modeling and Design Space Exploration of Low Power TTAs
Finished: September 2003
2. **Jari Heikkinen**
Hardware support for geometric spectral transforms
Student of Prof Jarmo Takala, Tampere University of Technology, Finland
3. **Jos Nelissen**
Real-time image stabilization and noise reduction using TTAs
4. **Sebastiaan de Smet**
Real-time image stabilization and noise reduction using TTAs
5. **Ivo Jansen**
Advanced Scheduling for TTAs

- 6. Stephan Lichtendahl**
A TTA based processor for JVM (Java Virtual Machine) code
1999
- 7. Arwin Smit**
MOVE Processor Generator
2000
- 8. Guido Tjia**
TTA exception support
2000
- 9. I-Chih Kang**
March 1999
Topic: Virtual time latching Load-store unit for TTAs
- 10. Alexander Lint**
Februari 1999
Topic: A real-time pipe organ synthesizer with integrated effects
- 11. Maarten Boekhold**, September 1998
Title: A Programable Code Transformation Engine
- 12. Robert J. de Gruijl**, September 1998
Title: Design of a digital pipe organ; a flexible approach
Thesis work at Eminent, digital organ company at Lelystad, The Netherlands
- 13. Arjen M. van der Weijden**, August 1998
Title: Design and Implementation of the MOCCA Processor
- 14. Henk Punt**, August 1998
Title: Microcode compaction for Mistral 2 processor and its implementation in the I.McIC
- 15. Henjo Schot**, July 1998
Title: Design of an application specific processor for high performance image processing
- 16. Steven Roos**, July 1997
Title: Design and implementation of an advanced instruction fetch unit for the MOVE framework.
Continued as PhD student on the ReMOVE architecture
- 17. A.H. (Noud) van Klinken**, September 1997
Title: Preprocessing signals for digital television
- 18. Niels Carpentier**
Advanced speculative load-store support within a superscalar architecture

19. **Andrea Cilio**, July 1996
Title: Comparative analysis between automatic design methodology and manual of an embedded system for MPEG Audio decoding
Student of Alessandro De Gloria, DIBE, University of Genua, Italy
20. **Dennis N. Moolenaar**, May 1996
Title: System specification and storage architecture exploration for two video compression standards
21. **Erwin C. Abrahamse**, September 1996
Title: Determining Execution Frequencies of Instructions without Profiling: A Survey
22. **Theo Baan**, 1996
Title: Design and Implementation of a Load-Store Unit for MOVE
23. **Bas K. van Houte**, January 1996
Title: MOVE-design, Design and Implementation of a Graphical User Interface for the MOVE-framework
24. **Marcel van der Lem**, 1995
Title: Implementation of realtime video compression, conform the MPEG standard, using a Transport Triggered Architecture.
25. **Jeroen Hordijk**, February 1995
Title: Exploiting the Instruction-level Parallellism of the Software TV applications using the MOVE Processor Framework
Continued as PhD student
26. **Lourens J. Visser**, August 1995
Title: Survey and Comparison of Methods for Design for Testability, a MOVE3INT Case study
27. **Marnix Arnold**, June 1995
Title: Synthesis and characterization of MOVE configurations, a new processor generator and a modeler proposal
Continued as PhD student in the MOVE project
28. **Marcel R. van der Laan**, June 1995
Title: MOVEmate: A Multifunctional Area and Timing Estimator for the MOVE framework
29. **Tobias J. Nijweide**, March 1994
Title: Implementing DESP for MOVE
30. **Wilco N. van Hoogstraeten**, July 1994
Title: Optimistic Distributed VHDL Simulation

31. **Reinoud Lamberts**, January 1994
Title: A MOVE Processor Generator
32. **Frans van Camp**, August 1993
Title: Real-time motion estimation within the MOVE framework
33. **Maarten Hofman**, May 1993
Title: Design and modeling of MOVE processors using VHDL and COMPASS
34. **Andre van der Avoird**, September 1993
Title: Automatic generation of pipelined multipliers
35. **Arno F. Roelofs**, August 1993
Title: Force Directed Scheduling for Transport Triggered Architectures
36. **Guillermo Cuppers**, May 1993
Title: Design and Implementation of a Load/Store Unit for the MOVE31INT Processor.
37. **Huib T. Van Grol**, December 1992
Title: Performance Measurement at Generation-Based Garbage Collectors
38. **Harry E. Snier**, December 1992
Title: A systematic view on binary adders
39. **Rene Bodenstaff**, December 1992
Title: Fast computing on Silicon
40. **Jan Hoogerbrugge**, December 1991
Title: Software Pipelining for Transport-Triggered Architectures
Continued as PhD student in the MOVE project
41. **Rogier E. Wolf**, December 1991
Design and implementation of a communication processor
42. **J.G.E. (Eddy) Olk**, August 1991
Title: Communication Processor for massive parallel MIMD Systems
Continued as TWAIO (2-years post-graduate program) on PARSE, parallel architecture simulator environment
43. **Theo P. Borst**, June 1989
Title: Unification Parallelism in Prolog
44. **Paul E. Schuurmans**, September 1989
Title: Performance Analysis of Two-semispace Garbage Collectors
45. **Ignatio G. Alves**, March 1989
Title: Explicit Concurrency in Logic Languages

46. **Hans J. van Gelderen**, July 1989
Title: Tela-Time Garbage Collection in Heap-oriented Computer Systems
47. **Tom Veldman**, August 1989
Title: Garbage Collection in Area-based Storage Systems
48. **A.C.J. Beekman**, September 1988
Title: Highly Parallel Dataflow and Logic Architectures: Main Principles and Design Considerations
49. **F.P.E. van Ris**, August 1988
Title: Accelerating shading algorithms by using parallel processors
50. **P.J. Brand**, February 1988
Title: Verification and Test in the SINEC-SV System
51. **R.E. Jacobs**, March 1988
Title: Parallelism in PostScript
52. **Gerard J. Brouwer**, August 1988
Title: Code Generation
53. **J.J. Lous**, August 1988
Title: Performance Improvement Analysis for Graphical Workstations
54. **Qi Cui**, August, 1988
Title: Research on optimizing compilers
55. **Frank W. ten Wolde**, September 1988
Title: Lisp and its implementation
56. **Marcel Mol**, September 1988
Title: Lisp and its implementation
57. **Hans Kinwel**, November 1987
Title: Prolog Implementations and Prolog Machines
58. **C. Tjahjadi**, December 1987
Title: *IT* Scheme abstract machine
59. **Marek J. Druzdzel**, February 1987
Title: Current Trends in Computer Architecture and their Relation to the LISP Programming Language
60. **Gerard J. van Bochoven**, February 1987
Title: Garbage collection in heap oriented computer systems

61. **Arjan Koster**, June 1987
Title: Between SPICE LISP and Machine
62. **Paul A.W. van Niekerk**, November 1986
Title: Control Flow LISP Machines
63. **Paul N. Ruizendaal**, July 1986
Title: On the Run-Time Model of the LISP Language
64. **Wim Koelewijn jr.**, July 1986
Title: On the Run-Time Model of the LISP Language