

CURRICULUM VITAE

Diego Gomes Tomé

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PERSONAL

Full Name Diego Gomes Tomé

Affiliation CWI, Centrum Wiskunde Informatica
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EDUCATION

2018 - now PhD. in Database Architectures
Centrum Wiskunde Informatica- CWI NL
Thesis: White Box Compression
Advisor: Peter Boncz, Ph.D.
Co-advisor: Stefan Manegold, Ph.D.

2016 - 2017 M.Sc. in Computer Science
Federal University of Paraná - UFPR Brazil
Thesis: NM-Scan: A Near-Memory Selection Scan for Database
Systems
Advisor: Eduardo C. de Almeida, Ph.D.
Co-advisor: Marco A. Z. Alves, Ph.D.

2012 - 2013 Exchange Student in B.Sc. Informatics Engineering
University of Jaén – UJA Spain
Advisor: José R. B. Almagro, Ph.D.

2010 - 2015 B.Sc. in Computer Science
State University of Ceará – UECE Brazil
Thesis: Migration of an Application with Relational Database to
NoSQL Database: A Case Study
Advisor: Paulo H. M. Maia, Ph.D.

ACADEMIC EMPLOYMENT

January 2018 - now	Student (PhD.) , Centrum Wiskunde & Informatica– NL Database Architectures Group - DA
February 2016 - December 2017	Student (M.Sc.) , Federal University of Paraná – Brazil BDGE - Large Scale Databases Group
March 2017 - April 2017	Visiting Professor , Positivo University – Brazil Specialization course in Auditing and Security
Teaching course: Data Mining and Business Intelligence	
August 2016 - October 2016	Teaching Assistant , Federal University of Paraná – Brazil Teaching course: CI-218 Database Systems
Subject - Storage Models and Indexes.	

PROFESSIONAL AFFILIATIONS AND SERVICES

November 2015 - April 2016	Systems Analyst , HSBC Bank– Brazil Systems administration Analysis and support for the DBMS Sybase and SQL Server
June 2014 - April 2016	Technical Analyst , CPQI IT Offshore Solutions– Brazil Analysis and development of Financial Systems

RESEARCH INTERESTS

- Analytical Database Systems
- Column-Store Database Architecture
- Data Compression
- Hardware-conscious Database Technology
- Emergent Hardware Technology
- Processing-in-memory
- Processor and Memory Hierarchy Technology

PROJECTS

January 2018 - Present	Actian CWI Research Grant
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March 2016 -
December 2018

Doric: In-memory column-store for high-performance emerging hardware

TECHNICAL SKILLS

Programming languages fluency: C/C++, Java, SQL, Python, Shell, Assembly

Parallel Programming experience: C/C++ with OpenMP and MPI

System administration: Server Linux, Solaris, and Windows

Software Development and Analysis

LANGUAGES

Portuguese (**native**), English (**fluent**), Spanish (**fluent**)

PUBLICATIONS

1. Tim Gubner, **Diego Tomé**, Harald Lang, Peter Boncz (2019). *Fluid Co-processing: GPU Bloom-filters for CPU Joins*. Proceedings of the 15th International Workshop on Data Management on New Hardware.
2. **Diego Tomé**, Tim Gubner, Mark Raasveldt, Eyal Rozenberg, Peter Boncz (2018). *Optimizing Group-By And Aggregation using GPU-CPU Co-Processing*. ADMS@VLDB.
3. **Diego G. Tomé**, Tiago R. Kepe, Marco A. Z. Alves, Eduardo C. de Almeida (2018). *Near-Data Filters: Taking Another Brick from the Memory Wall*. ADMS@VLDB.
4. **Diego G Tomé**, Paulo C Santos, Luigi Carro, Eduardo C Almeida, Marco AZ Alves (2018). *HIPE: HMC instruction predication extension applied on database processing*. Design, Automation & Test in Europe Conference & Exhibition (DATE), 2018.
5. **Diego Gomes Tomé**, Marco Antonio Zanata Alves, Eduardo Cunha de Almeida (2017). *A Processing-in-Memory Approach of Selection Operations on Database Systems*, In XVI Workshop on Thesis and Dissertations in Database (WTDBD - SBBD), 2017, Uberlandia, Brazil
6. Paulo C Santos, Geraldo F Oliveira, **Diego G Tomé**, Marco AZ Alves, Eduardo C Almeida, Luigi Carro (2017). *Operand Size Reconfiguration for Big Data Processing in Memory*. Proceedings of the Conference on Design, Automation & Test in Europe.

7. Aline Santana Cordeiro, Tiago Rodrigo Kepe, **Diego Gomes Tomé**, Eduardo Cunha de Almeida, Marco Antonio Zanata Alves (2017). *Intrinsics-HMC: An Automatic Trace Generator for Simulations of Processing-In-Memory Instructions*. Simpósio em Sistemas Computacionais de Alto Desempenho (WSCAD).
8. **Diego Gomes Tomé (2017)**. *A Near-Data Select Scan Operator For Database Systems*. Master's Thesis UFPR.

MANUSCRIPTS IN PREPARATION/SUBMITTED FOR REVIEW

1. Bogdan Ghita, Diego Tomé, Peter Boncz (2020) (**under review**). *White-box Compression: Learning and Exploiting Compact Table Representations*. Proceedings of the Conference on Innovative Data Systems Research (CIDR).

FELLOWSHIPS

2018 - present	PhD. Student and Researcher Netherlands Organisation for Scientific Research
2016 - 2018	M.Sc. Student and Researcher Higher Education Personnel Improvement Coordination (CAPES)
2012 - 2013	Exchange Student National Council for Scientific and Technological Development (CNPq)
2011 - 2012	Organization of academic activities Brazilian Ministry of Education (SESu/MEC)

TALKS

1. **Tomé, D. G.** (2018). *Optimizing Group-By And Aggregation using GPU-CPU Co-Processing*. Talk presented at the Ninth International Workshop on Accelerating Analytics and Data Management Systems Using Modern Processor and Storage Architectures. Rio de Janeiro - Brazil
2. **Tomé, D. G.** (2018). *Near-Data Filters: Taking Another Brick from the Memory Wall*. Talk presented at the Ninth International Workshop on Accelerating Analytics and Data Management Systems Using Modern Processor and Storage Architectures. Rio de Janeiro - Brazil
3. **Tomé, D. G.** (2016). *MonetDB: An Open-Source Columnar Database*. Talk presented at the VIII Open Source Technology Forum, Curitiba, Paraná – Brazil

REFERENCES

Ph.D. Peter Boncz (PhD. Supervisor)

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Prof. Ph.D. Eduardo Cunha de Almeida (Master Supervisor)

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Prof. Ph.D. Marco Antonio Zanata Alves (Master Co-supervisor)

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