CURRICULUM VITAE

Diego Gomes Tomé

November 2019

PERSONAL

Full Name   Diego Gomes Tomé

Affiliation   CWI, Centrum Wiskunde Informatica
Science Park 123 (L321)
Amsterdam, ZIP: 1098 XG, NL
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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 -   **Visiting Professor,** Positivo University – Brazil
April 2017   Specialization course in Auditing and Security
Teaching course: Data Mining and Business Intelligence

August 2016 -   **Teaching Assistant,** Federal University of Paraná – Brazil
October 2016   Teaching course: CI-218 Database Systems
Subject - Storage Models and Indexes.

PROFESSIONAL AFFILIATIONS AND SERVICES

November 2015 -   **Systems Analyst,** HSBC Bank– Brazil
April 2016   Systems administration
        Analysis and support for the DBMS Sybase and SQL Server

June 2014 -   **Technical Analyst,** CPQI IT Offshore Solutions– Brazil
April 2016   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
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), Dutch(Basic)**

PUBLICATIONS

1.   **Diego Tomé**, Peter Boncz **(2020)**. *Redesigning Query Engines for White-box Compression.* Ph.D. Workshop VLDB 2020.

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

3.   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.

4.   **Diego Tomé**, Tim Gubner, Mark Raasveldt, Eyal Rozenberg, Peter Boncz **(2018)**. *Optimizing Group-By And Aggregation using GPU-CPU Co-Processing.* ADMS@VLDB.

5.   **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.

6.   **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.

7.   **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 Theses and Dissertations in Database (WTDBD - SBBD), 2017, Uberlandia, Brazil

8.   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.

9.   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).

10.   **Diego Gomes Tomé (2017)**. *A Near-Data Select Scan Operator For Database Systems.* Master's Thesis UFPR.

FELLOWSHIPS

2018 - present   PhD. Student and Researcher
Netherlands Organization 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.** (2019). *Achieving Compressed Execution with White-box Compression.* Talk presented at the Dutch-Belgian DataBase Day. JADS 's-Hertogenbosch - NL
2.   **Tomé, D. G.** (2018). *A GPU-optimized Bloom filter for database systems.* Talk presented at the Dutch-Belgian DataBase Day. Hasselt University - Belgium
3.   **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
4.   **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
5.   **Tomé, D. G.** (2016). *MonetDB: An Open-Source Columnar Database.* Talk presented at the VIII Open Source Technology Forum, Curitiba, Paraná – Brazil

ACTIVITIES IN THE RESEARCH COMMUNITY

PC membership: ADMS@VLDB 2019

REFERENCES

Ph.D. Peter Boncz (PhD. Supervisor)
CWI, Centrum Wiskunde Informatica
Science Park 123 (L316)
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Science Park 123 (L321)
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Prof. Ph.D. Eduardo Cunha de Almeida (Master Supervisor)
UFPR, Department of Informatics (Dinf)
Rua Cel. Francisco H. dos Santos, 100
Centro Politécnico - Jardim das Américas
Curitiba-PR, CEP: 81.531-980, Brasil
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Email: eduardo@inf.ufpr.br

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