

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

## PROFESSIONAL AFFILIATIONS AND SERVICES

November 2015 - April 2016	<b>Systems Analyst</b> , HSBC Bank– Brazil Systems administration Analysis and support for the DBMS Sybase and SQL Server
June 2014 - April 2016	<b>Technical Analyst</b> , 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

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. 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).
2. 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.
3. **Diego Tomé**, Tim Gubner, Mark Raasveldt, Eyal Rozenberg, Peter Boncz (**2018**). *Optimizing Group-By And Aggregation using GPU-CPU Co-Processing*. ADMS@VLDB.
4. **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.
5. **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.

6. **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
7. 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.
8. 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).
9. **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 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). *A GPU-optimized Bloom filter for database systems*. Talk presented at the Dutch-Belgian DataBase Day. Hasselt University - Belgium
2. **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
3. **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
4. **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)  
Amsterdam, ZIP: 1098 XG, NL  
Phone: +31 (20) 592 4309  
Email: peter.boncz@cwi.nl

**Ph.D. Stefan Manegold (PhD. Co-supervisor)**

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Science Park 123 (L321)  
Amsterdam, ZIP: 1098 XG, NL  
Phone: +31 (20) 592 4212  
Email: stefan.manegold@cwi.nl

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

UFPR, Department of Informatics (Dinf)  
Rua Cel. Francisco H. dos Santos, 100  
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**Prof. Ph.D. Marco Antonio Zanata Alves (Master Co-supervisor)**

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