

Jessica Imlau Dagostini

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🏠 Personal Page in LinkedIn 📄 GitHub

AREAS OF INTEREST

High-Performance Computing | GPGPU Programming | Optimization and Load Balancing | Programming Languages

EDUCATION

Sep,2022 – Present

Ph.D. Student in Computer Science

University of California Santa Cruz (UCSC), United States
Advisor: Prof. Dr. Scott Beamer
Co-Advisor: Prof. Dr. Tyler Sorensen

Mar,2020 – Mar,2022

M.Sc. in Computer Science (GPA: A)

Federal University of Rio Grande do Sul (UFRGS), Brazil
"Performance Improvements Applied in an Electromagnetic Inversion Application Focused on Homogeneous and Heterogeneous Computational Environments"
Advisor: Prof. Dr. Lucas Mello Schnorr

Feb,2015 – Dec,2019

B.Sc. in Computer Science (Summa Cum Laude – 9.39 / 10)

Universidade Regional Integrada do Alto Uruguai e das Missões - URI Erechim, Brazil
"Evaluating the Container's Applicability in a Distributed System of Code Judgement"
(Avaliação da Aplicabilidade de Containers em um Sistema Distribuído de Julgamento de Códigos.)
Advisor: Prof. Ms. Neilor Avelino Tonin
Co-advisor: Dr. Jean Luca Bez

PROFESSIONAL EXPERIENCE

Mar,2020 – Mar, 2022

Graduate Research Assistant

Federal University of Rio Grande do Sul (UFRGS), Brazil
"Computational Optimization of Data Inversion Codes"
(Otimização Computacional de Códigos de Inversão de Dados)
Advisor: Prof. Dr. Lucas Mello Schnorr

- This project aims to investigate and implement computational techniques that improve the execution and quality of results of Data Inversion codes;
- Evaluated, proposed and applied algorithms to improve the load balancing and scalability of a data inversion application of survey oil and gas in homogeneous and heterogeneous systems.

Jan,2021 – Present

Principal System Architect

beecrowd, Brazil

- Responsible for managing changes and fundamental structure of beecrowd systems;
- Manage and administrate applications' database;
- Organize and supervise team's activities.

May,2019 – Sep,2019

Adjunct Faculty

National Service for Commercial Education - RS, SENAC/RS, Brasil.

- Taught robotics to K-12 students in a project complementary to school;
- Teacher in two components of the Fundamentals of Informatics course (Compact Internet and Compact PowerPoint).

Jan,2019 – Mar,2019

Intern Research (Summer Program)

Brazilian Center for Research in Energy and Materials (CNPEM), Brazil
 Brazilian Synchrotron Light Laboratory (LNLS), Brasil
"GPU Code Implementation to Phase Recovery on Fraunhofer Region"
(Implementação em GPU para a Recuperação da Fase na Região de Fraunhofer)
 Advisor: Dr. Eduardo Xavier Miqueles

- Summer internship project consisted of the development of a specific tool for the restoration of projective images obtained in the Fraunhofer region;
- Main developer of an application in CUDA to be incorporated into the pipeline of the automatic processing of the detectors from the Sirius synchrotron light source;
- Discovered some bugs at cuFFT library that were reported to NVIDIA developers.

Aug,2018 – Jul,2019

Undergraduate Student Extensionist

Universidade Regional Integrada do Alto Uruguai e das Missões - URI Erechim, Brazil
"Insertion of High School Students from Erechim on Brazilian Olympiads in Informatics"
(A Inserção de Alunos do Ensino Médio de Erechim na Olimpíada Brasileira de Informática)
 Advisor: Prof. Ms. Neilor Avelino Tonin

- Project to teach algorithms and programming languages to High School students
- Taught programming to 45 students that enrolled in the Brazilian Olympiads in Informatics (OBI)

Aug,2015 – Jul,2018

Undergraduate Research Assistant

Universidade Regional Integrada do Alto Uruguai e das Missões - URI Erechim, Brazil

- *"A Study About Distributed Systems to be Applied on URI Online Judge Portal"*
(Um Estudo Sobre Sistemas Distribuídos para Aplicação no Portal URI Online Judge)
 Advisor: Prof. Ms. Neilor Avelino Tonin
 - Distributed the front-end servers from URI Online Judge;
 - Studied and applied tests to verify which system distribution will be the best option for the environment
- *"Developing a Customized Online Forum to URI Online Judge"*
(Criação de um Fórum Customizado para o Portal URI Online Judge)
 Advisor: Prof. Ms. Neilor Avelino Tonin
 - Rebuilt the online forum from the URI Online Judge (now beecrowd) platform, applying some concepts related to Human-Computer Interaction, developed using CakePHP framework;
 - The new version was deployed in April, 2017, now being used by 300k users, with more than 8800 posts (<https://www.becrowd.com.br/judge/en/forum>).

Apr,2012 – Aug,2014

Junior Student Research

Universidade Regional Integrada do Alto Uruguai e das Missões - URI Erechim, Brazil
 Escola Estadual Normal José Bonifácio (High School), Brazil
"Discussion and Deepening of Concepts Regarding the Study of Mathematical Functions on High School"
(Discussão e Aprofundamento de Conceitos a Respeito do Estudo de Funções do Ensino Médio)
 Advisor: Prof. Ms. Clemerson Alberi Pedrosa

- Investigated, discuss, and deepen mathematical concepts related to the study of functions and contribute to the approximation of scientific-theoretical knowledge didactic-operational knowledge in Exact Sciences;
- Developed a diversity of studies from applied mathematics and created a collection of problems modeled from real-world problems.

AWARDS

2021

Students@SC Best Lightning Talk

Awarded by Students@SC Program from Supercomputing'21 Conference

2021

BRASA Pré-Graduation Mentee

Selected mentee for the Brazilian Student Association (BRASA) PRÉ Graduation for Ph.D Program.

2020

URI Erechim Best Student Award

SUMMA CUM LAUDE (9.39 / 10.0)

Awarded by Universidade Regional Integrada do Alto Uruguai e das Missões (URI)

2020	SBC Highlight Student Award	SUMMA CUM LAUDE (9.39 / 10.0)
	Awarded by Brazilian Computer Society (SBC)	
2016	2º Place - Tecnomate Contest 2016, Categoria "Libres"	
	Awarded by Departamento de Ingeniería en Sistemas de Información, UTN Santa Fé (Argentina).	
2010	Honorable Mention on 6th Brazilian Math Olympiads of Public Schools (OBMEP)	
	Awarded by Conselho Nacional de Pesquisa (CNPq), Brasil.	

GRANTS & FELLOWSHIPS

Mar,2020 – Present	Master Scholarship	Financial scholarship provided by Petroleo Brasileiro, to work in the research project "Otimização Computacional de Códigos de Inversão de Dados" (Computational Optimization of Data Inversion Codes)
Fev,2015 – Dez,2019	University for All Program (ProUni)	Financial and merit-based full scholarship provided by Brazilian Federal Government to cover university tuition (selected as 1st place)

PUBLICATIONS

JOURNAL PUBLICATIONS

- **Dagostini, J.**; Bez, J. L.; Tonin, N. A.; Rodegheri, P. R. (2017) **Um novo ambiente de discussões para o URI Online Judge** *Perspectiva - Erechim*, v. 41, p. 65-74, 2017

FULL PAPERS PUBLISHED IN CONFERENCES

- **Dagostini, J.**; H. C. P. da Silva, V. G. Pinto, R. M. Velho, E. S. L. Gastal and L. M. Schnorr. (2021) **Improving Workload Balance of a Marine CSEM Inversion Application**. In: *2021 IEEE International Parallel and Distributed Processing Symposium Workshops (IPDPSW)*, 2021, pp. 704-713, <https://doi.org/10.1109/IPDPSW52791.2021.00107>.
- **Dagostini, J.**; Lima, M. V. de M.; Bez, J. L.; Tonin, N. A. (2018) **URI Online Judge Blocks: Construindo Soluções em uma Plataforma Online de Programação**. In: *XXIX Simpósio Brasileiro de Informática na Educação (Brazilian Symposium on Computers in Education)*, Fortaleza, 2018. v. 1. p. 168-177. <http://dx.doi.org/10.5753/cbie.sbie.2018.168>
- **Dagostini, J.**; Lima, M. V. de M.; Tonin, N. A. (2018) **Multilayer Perceptron para Classificação de Sentimento em Textos utilizando a biblioteca TensorFlow**. In: *X Simpósio De Tecnologia Da Informação Da Região Norte e Nordeste do Rio Grande do Sul*, 2018, Erechim, RS.
- **Dagostini, J.**; Tonin, N. A. (2016) **URI Online Judge Fórum: Uma Plataforma para Compartilhamento de Conhecimento**. In: *II CONIGTI - Congresso Internacional de Gestão, Tecnologia e Inovação*, Erechim, RS: EdIFAPES, 2016. v. 1.

SHORT PAPERS PUBLISHED IN CONFERENCES

- **Dagostini, J.**; Pinto, V., & Schnorr, L. (2021). **Aplicação de Método Guloso para Balanceamento de Carga em uma Aplicação de Exploração Eletromagnética**. In: *Anais da XXI Escola Regional de Alto Desempenho da Região Sul*, (pp. 87-88). Porto Alegre: SBC. <https://doi.org/10.5753/eradrs.2021.14782>
- **Dagostini, J.**; Lima, M. V. de M.; Bucior, L.; Bez, J. L.; Tonin, N. A. (2017) **Incentivando a Aprendizagem de Algoritmos Através do URI Online Judge Forum 2.0** In: *XXVIII Simpósio Brasileiro de Informática na Educação (Brazilian Symposium on Computers in Education)*, Recife, 2017. v. 1. p. 1781. <http://dx.doi.org/10.5753/cbie.sbie.2017.1781>

SKILLS

ENVIRONMENTS

- Working proficiency: Linux/Unix | nano | bash | git | Docker and LXC containers | LaTeX;
- Basic proficiency: spack | slurm | vi.

PROGRAMMING LANGUAGES

- Working proficiency: C | C++ | Python | PHP | HTML/CSS;
- Basic proficiency: Java | JavaScript | Ruby | R.

APIs AND FRAMEWORKS

- Working proficiency: CUDA | OpenMP | CakePHP | Score-P;
- Basic proficiency: MPI | POSIX Threads | OpenACC.

GENERAL SKILLS

- Abilities with leadership and teamwork;
- Experience with teaching algorithms to new programmers;
- Knowledge of teaching didactics (High School with disciplines for teaching degree).

PRESENTATIONS AND INVITED TALKS

INVITED TALKS

1. **Dagostini, J.**; Gayler, R.; Beste E. de; F ratkin, M.; Merritt, C.; Gonsiorowski, E.; Belcher, K.; Chen, D. (2021) **Addressing Challenges in HPC Careers.** *Students@SC Student Programming, Supercomputing 21 Conference, St. Louis, United States*
2. **Dagostini, J.**; Baptista, V.; Zhan, Y.; Leiva, F. H.; Gyawali, S.; Johnston, B.; Filinger, W. (2021) **Presentation and Communication Skills.** *Students@SC Student Programming, Supercomputing 21 Conference, St. Louis, USA*
3. **Dagostini, J.**; Solórzano, A. L.; Girelli, V. (2021) **Por que ainda precisamos falar sobre mulheres em HPC?.** *English title: Why do we still have to talk about women in HPC? (WHPC Affiliate Brasil - Região Sul) WSCAD Conference, Minas Gerais, Brasil*
4. **Dagostini, J.**; Solórzano, A. L.; Girelli, V. (2021) **Latin American Women on HPC: WHPC Affiliate Brasil Região Sul.** *Latin America High Performance Computing Conference (CARLA 2021), Guadalajara, Mexico*
5. **Dagostini, J.**; Solórzano, A. L.; Girelli, V. (2021) **Special Session - Women in High Performance Computing.** *(WHPC Affiliate Brasil - Região Sul) XXI Escola Regional de Alto Desempenho, Santa Catarina, Brasil*
6. **Dagostini, J.**; Lima, M. V. de M.; Tonin, N. A. (2017) **Enseñar a programar jugando: URI Judge Online.** *WTIC, Resistencia, Argentina*
7. **Dagostini, J.**; Bez, J.L.; Tonin, N. A. (2016) **Portal URI Online Judge - Internacionalização. 2016.** *Tecnomate, Santa Fé, Argentina.*

ORGANIZATION OF EVENTS

- 2022 **Women in HPC SC'22 Workshop**
Submissions Co-Chair
- 2022 **29th IEEE Hot Interconnects Symposium**
Web Chair
- 2019 **X Simpósio de Tecnologia da Informação da Região Norte e Noroeste do Rio Grande do Sul XXIII Semana Acadêmica do Curso de Ciência da Computação da URI Erechim.**
Universidade Regional Integrada do Alto Uruguai e das Missões - URI Erechim, Brazil
Member of the Organizer Team
- 2019 **IX Simpósio de Tecnologia da Informação da Região Norte e Noroeste do Rio Grande do Sul XXII Semana Acadêmica do Curso de Ciência da Computação da URI Erechim.**
Universidade Regional Integrada do Alto Uruguai e das Missões - URI Erechim, Brazil
Member of the Organizer Team
- 2019 **III Engenharia em 24 Horas: o desafio.**
Universidade Regional Integrada do Alto Uruguai e das Missões - URI Erechim, Brazil
Member of the Organizer Team

TUTORIALS AND SHORT TERM COURSES

- Apr,2021 **Are you Root? Experimentos Reprodutível em Espaço de Usuário**
XXI Escola Regional de Alto Desempenho da Região Sul
Short Term Course
- Oct,2020 **Introdução a Programação Paralela com OpenMP**
I Semana Acadêmica Integrada dos Cursos de Ciência da Computação da URI
Short Term Course

VOLUNTEER EXPERIENCE

- May,2022 – Present **Women in HPC SC'22 Workshop Submissions Co-Chair**
Women in HPC SC'22 Workshop
ACM/IEEE SC'22 Supercomputing Conference, Dallas (USA)
Principal Activities:
 - Co-chair of Lightning Talk Submissions for the Women in HPC Workshop
- Mar,2022 – Present **Selected SCALE Student Volunteer**
Lead Student Volunteer
ACM/IEEE SC'22 Supercomputing Conference, Dallas (USA)
Principal Activities:
 - Lead Volunteer at Infrastructure Committee (Wayfinding)
- Jan,2022 – Present **Hot Interconnects 2022 Web Chair**
Responsible for the web development and design of the Hot Interconnects 2022 web page.
- Jan,2021 – Present **Women in HPC Affiliate Brasil - Região Sul**
Co-Founder of the Women in HPC Affiliate Brasil - Região Sul.
First representation of WHPC Global in Latin America.
- Mar,2021 – Nov, 2021 **Selected SCALE Student Volunteer**
Student Committee Apprenticeship and Leadership Experience
ACM/IEEE SC'21 Supercomputing Conference, St. Louis (USA)
Principal Activities:
 - Student Volunteer at Communication Committee
 - Updates on social media from Students@SC Program
- Nov,2020 **Selected Regular Student Volunteer**
ACM/IEEE SC'20 Supercomputing Conference, Atlanta (USA)
- May,2015 – Aug,2017 **Volunteer Member**
Rotaract Club Erechim Paiol Grande - Rotaract Club recognized by the Rotary International