

Tiago Beltrão Lacerda

[LinkedIn](#), [GitHub](#), [Medium](#)

Tblacerda@outlook.com



Experience

TIM S.A. (2013 – present), Telecommunication's Specialist at TIM Northeast, responsible for mobile network optimization for 2G to 5G networks from Nokia and Huawei in 81 local area codes (Recife and nearby cities), special projects like indoor coverage, street level solution, network design, events (like carnival and Réveillon capacity planning and deployment), also network forecasting using in-house radio coverage software, TIM Italia GUITAR.

CLARO S.A. (2008 – 2013), Senior Engineering, responsible for end-to-end network deployment for 3G and 4G.

Projects

Voronoi Project. At TIM, we developed a system to map and make sense of thousands of anonymous tests collected daily by Opensignal from users across the country using Voronoi tessellation, bridging the gap between TIM Brazil's Customer User Experience (CeX) and the specific cell tower responsible for it. Today, TIM uses it to manage and fine-tune its mobile network investments.

Automatic Mobile Network Design. At TIM, we developed a tool using linear programming that assessed the mobile network load, the current network capacity, and provided the least expensive network capacity increase to meet network KPI requirements. We used python with PULP, Pandas, numpy, mainly.

Packet Loss Behavior Monitoring. At TIM, with an ever-increasing complexity of the transport network, we developed a monitoring system that alerts when a node increases the Packet Loss Behavior with sensitivity > 95%. We used Python, SQL and Scipy to implement hypothesis testing.

HEAR, A Tensorflow audio-based violence detection system for Android.

Publications

Detection of physical violence through audio, 2022 17th Iberian Conference on Information Systems and Technologies (CISTI) · Jun 2022

Machine Learning Applied to survival prediction of elderly cancer patients: Systematic Review, 2020 15th Iberian Conference on Information Systems and Technologies (CISTI) · Jun 2020

Education

MSc Software Engineering

Centro de Estudos Avançados do Recife, CESAR.School

Thesis: Machine Learning for Risk Classification of Cancer Patients

Recife, Brazil

2018 - 2020

BSc Electronic Engineering

Universidade Federal de Pernambuco, UFPE

Relevant courses: Cryptography, Computer Networks I and II, Information Theory

Recife, Brazil

2000 - 2007

Skills

Programming Languages: Python, R

Programming Frameworks: Tensorflow, Pandas, Numpy, Matplotlib, Seaborn

Technologies: Deep Learning, Git, Linux

Languages: Brazilian Portuguese (native), English (C1), German (A1)