

## Contact

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## Top Skills

Large Language Models (LLM)

Text-to-Speech Synthesis

STT

## Languages

German (Native or Bilingual)

Swedish (Limited Working)

Portuguese (Full Professional)

Gothic (Limited Working)

Spanish (Full Professional)

Yiddish (Elementary)

French (Elementary)

Latin (Limited Working)

English (Native or Bilingual)

Russian (Limited Working)

## Certifications

Portuguese - CELPE-BRAS - Oral and Writing Proficiency

German - ACTFL Writing Proficiency

German - ACTFL Oral Proficiency

Spanish - ACTFL Writing Proficiency

## Honors-Awards

Second Place Best Paper

Health Hackathon 2019

## Publications

SC-GlowTTS: an Efficient Zero-Shot Multi-Speaker Text-To-Speech Model

Acoustic Modeling Using a Shallow CNN-HTSVM Architecture

Automatic Disambiguation of Homographic Heterophone Pairs

# Christopher Shulby

Machine Learning Engineering Leader

Lisbon Metropolitan Area

## Summary

Passionate Machine Learning Leader | NLP Researcher | Multi-Cultural Team Builder

My expertise lies in Natural Language Processing (NLP) and Speech Processing, where I've made waves as a researcher and team leader. From speech recognition to text-to-speech (TTS) and natural language understanding (NLU), I've dived deep into the fascinating realm of language processing and everything that makes it tick. #

Throughout my career, I've had the privilege of leading exceptional teams in various areas of Machine Learning, including Speech, NLP, Data Science, and Computer Vision. Together, we've crafted world-class products and models, revolutionizing the AI industry for Fortune 500 companies.

Currently, I'm proud to head up the Data Science operations at QuintoAndar's new office in Portugal, where we're tackling exciting challenges in search and ranking, recommendations, and Computer Vision.

Before that, I made remarkable contributions as a Director at Defined.ai (formerly DefinedCrowd) and as a technical lead at Samsung, driving innovation and shaping the future of AI with the Bixby project. Prior to that, I honed my skills at CPqD and Vocalize Speech Solutions, where I made considerable research advancements.

To deepen my knowledge and expertise, I pursued a PhD in Computer Science and Computational Mathematics from the University of São Paulo. My dissertation focused on state-of-the-art Speech Recognition techniques, particularly acoustic modeling for non-native speech, exploring the intersection of Statistical Learning Theory and Deep architectures, unlocking their full potential by going beyond the black box approach.

Containing Open and Closed Mid Vowels

ASR data augmentation in low-resource settings using cross-lingual multi-speaker TTS and cross-lingual voice conversion

Evaluating Word Embeddings for Sentence Boundary Detection in Speech Transcripts

## Patents

A Method for Phoneme Recognition with Little Data

Recently, I've been working as a part-time consultant for a stealth startup, providing expertise in TTS, LLMs, and Conversational AI. I help them unleash the power of these technologies in software development and research.

Beyond work, I cherish my roles as a loving father to my young daughter and a devoted husband to my amazing wife, Tatiana. Together, we embark on memorable adventures, whether it's long walks with our German Shepherd Dog, Eva. You'll often find me fueling my passion for sports through swimming, running, biking, hiking, and skiing. Traveling the world and embracing new cultures is another lifelong pursuit that fuels my curiosity. →#

If you share a passion for innovation, team collaboration, and breaking barriers, let's connect and explore how we can make a difference together! Feel free to reach out for inspiring conversations or exciting opportunities.

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## Experience

### Stealth Startup

Consultant TTS/LLMs/Conversational AI

March 2023 - Present (7 months)

United States

Part-time consulting and implementation work for companies who are interested in building commercial solutions related to Speech Processing like Text-to-Speech (TTS), Speech-to-Text (STT/ASR) or Large Language Models (LLMs).

### QuintoAndar

Head of Data Science

November 2022 - Present (11 months)

Lisbon, Portugal

I lead teams who specialize in Computer Vision, Search and Ranking as well as Recommendations and Personalization to give Quinto Andar clients an impressive experience when searching for and considering a new home to call their own. ♥#

Defined.ai

3 years 3 months

Director of Machine Learning Engineering

March 2020 - November 2022 (2 years 9 months)

Lisbon Metropolitan Area

Machine Learning includes the research and production of machine learning products, specifically in our core areas of Speech, Natural Language Processing and Computer Vision.

Head of Speech Sciences

September 2019 - February 2020 (6 months)

Lisbon Area, Portugal

Head of all things which have to do with Speech Processing (speech recognition and synthesis). We are global leaders in research and productization of speech data and models for the AI Industry.

SiDi

2 years 1 month

Consultant/Technical Manager

March 2019 - September 2019 (7 months)

Campinas, São Paulo, Brazil

Chief Software Developer/TL/Coordinator

September 2017 - March 2019 (1 year 7 months)

Campinas, São Paulo, Brazil

Technical leader of Bixby (Samsung virtual assistant) Speech Solutions team

Samsung Electronics

2 years 1 month

Consultant/Technical Manager

March 2019 - September 2019 (7 months)

Campinas Area, Brazil

Chief Software Developer/TL/Coordinator

September 2017 - March 2019 (1 year 7 months)

Campinas Area, Brazil

Technical leader of Bixby (Samsung virtual assistant) Speech Solutions team

Auglaize county ESC

Teacher

July 2010 - June 2019 (9 years)

Wapakoneta, Ohio

Taught virtual classes at a distance for secondary education, mainly to at risk students. Most of them were unable to continue in the traditional brick and mortar setting. A challenging and incredibly rewarding experience. Subjects: German and Spanish

### Speechtera

Founder and Principal Researcher

April 2015 - July 2018 (3 years 4 months)

São Carlos, São Paulo, Brazil

Founded a start-up company under the PIPE program, an accelerator for small businesses in the technology sector by FAPESP, São Paulo's main academic funding organ for Research and Development in the area of Speech Technologies, specifically automatic speech recognition and speech synthesis. A number of products were created and made available to the community including speech corpora for Brazilian Portuguese, grapheme to phoneme converters as well as text normalizers. Other projects in the private sector include the development of ASR engines and speech datasets.

### CPqD

Speech Engineer

November 2014 - September 2017 (2 years 11 months)

Campinas Area, Brazil

Developed automatic speech recognition and speech synthesis software for Portuguese, Spanish and English.

Principal Contributions: Research and Development of the first Deep Learning techniques for speech technology at CPqD, Multilingual Linguistic Module; Speech Corpora, Tools for Automatic and Manual Speech Segmentation.

### Vocalize Solucoes Em Tecnologias Da Fala E Da Linguagem

Speech Researcher

October 2013 - November 2014 (1 year 2 months)

Campinas Area, Brazil

Developed automatic speech recognition and speech synthesis software for Portuguese, Spanish and English.

Principal Contributions: Multilingual Linguistic Module; Speech Corpora; Automatic Prosodic Chunker; Automatic Diarization.

### CAPES - Coordenação de Aperfeiçoamento de Pessoal de Nível Superior

Doctoral Researcher

January 2012 - October 2013 (1 year 10 months)

São Paulo, Brazil

Researcher in the area of Speech Recognition and worked with a group of scientists and linguists to build corpora, webcrawlers, g2ps, phonetic balancers and tools to build new and large scale corpora. We released all of these tools on our laboratory homepage:

<http://www.nilc.icmc.usp.br/nilc/index.php/tools-and-resources>

We also built our own neural network models from scratch and battled the vanishing gradient, experimenting on top of the current HMM models and corpora as deep learning became possible but there were no toolkits available.

The Ohio State University

NLP Research Intern

February 2007 - June 2010 (3 years 5 months)

Columbus, Ohio Area

Natural Language Processing

Developed components for an online tutoring system, called Merk Mal, including a PoS Tagger and Stemmer to automatically diagnose errors for students of German.

Schmidt's Sausage Haus

4 years

Waiter

October 2005 - May 2009 (3 years 8 months)

Columbus, Ohio Area

Dish Washer

June 2005 - October 2005 (5 months)

Columbus, Ohio Area

Arby's Restaurant Group, Inc.

Front Cashier

January 2001 - 2005 (4 years)

Cuyahoga Falls, Ohio, United States

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## Education

The Ohio State University

Master of Arts - MA, Education · (2009 - 2011)

Universidade de São Paulo

Doctor of Philosophy - PhD, Computer Science · (2012 - 2018)

The Ohio State University

Bachelor's degree, Linguistics · (2005 - 2009)