Patrick Da Silva

Curriculum Vitae

Niittaajankatu 3 B 26
00810 Helsinki, Finland
📞 *+358 5030 92383*
✉ *patrick1dasilva@gmail.com*

Originally from Montreal, having spent 10 years in Berlin and now living in Helsinki, my problem-oriented approach combined with my mathematical background led me to a wide variety of experiences and skillsets. My ability to pick up required skills and deliver value is very efficient due to my long history of tackling the hardest problems combined with empathy for my clients' problems. My goal is to deliver at least twice as much value as you asked for, while avoiding being a bottleneck for you in the process at all costs.

All the jobs you see listed below, I've acquired most of the skills I needed for those jobs during those jobs, because I focus on delivering what is best for my client, regardless of my personal preferences or background. This is something I do with ease, and that is why over the years, I became an expert in frontend, backend, database and cloud development, as well as data science, machine learning and LLMs. So I would love to hear about what problems you need support with and how I can help with the plethora of skills in my toolkit.

Work experience

May 2022 - now
Polar Squad, *DevOps Consultant*, polarsquad.com
- Consultation on how to improve processes, automation, collaboration, monitoring and culture in tech companies
- Technical implementations of processes with customers
- Internal sales work and assessment work to build warm leads for colleagues
- Online presence in LinkedIn to market our consulting work
- Technologies frequently used: Kubernetes, Docker, Terraform, Linux, python, bash, TypeScript, Go, AWS, GCP.

May 2024 - November 2024
PipeCloud, *Cloud Architect (Polar Squad client)*, pipecloud.fi
- Modernization of their AWS stack implemented in the browser, moving to AWS CDK
- Migration of a legacy AWS account containing multiple setups to AWS Organizations
- Implementation of new CI/CD processes via Bitbucket pipelines for the new CDK setup
- Technologies frequently used: AWS CDK, AWS ECS, AWS Lambda, Elastic Beanstalk, AWS Route 53, AWS IAM, Terraform, NodeJS, Vue, PHP.

June 2024 - August 2024
Túlka, *Project Lead & Azure OpenAI Expert (Polar Squad client)*, tulka.com
- Creation of a multilingual translator for conversations in text and audio via Azure OpenAI
- Management of frontend, backend and infrastructure teams of consultants
- Personally supporting all three teams with both hands-on and hands-off work
- Continuous communication with the customer to align expectations, timeline and progress
- Technologies frequently used: Azure, OpenAI, Machine Learning, NLP, Python, FastAPI, React, Vite.

May 2023 - November 2023
Smartly, *Backend & ML Engineer (Polar Squad client)*, smartly.io
- Terraform code migration to AWS CDK and implementation of new process running on AWS ECS
- Maintenance of existing server based on NestJS and Stan (statistical modelling software)
- Migration of backend server from NestJS to FastAPI
- Technologies frequently used: TypeScript, Python, NestJS, FastAPI, Machine Learning, AWS CDK, AWS ECS, Terraform.

March 2022 - May 2023	**Techtile**, *Freelance Technical Consultant*, dubmesoft.com ○ Management, tutoring and mentoring of the technical talent at Techtile ○ Web development (JavaScript, ReactJS, NextJS, Jest & Enzyme, Babel, Webpack) ○ Code maintenance, code reviews, bug fixing ○ Backend development (NodeJS, TypeScript, NestJS, PostgreSQL) ○ Machine Learning for a client in the architecture space (Tensorflow, Keras, Autodesk)
July 2020 - March 2022	**Staiy**, *Chief Technical Officer*, staiy.com ○ Management of the technical talent at Staiy, remote-work only ○ Web development (JavaScript, ReactJS, Jest & Enzyme, Babel, Webpack) ○ Responsive design implementation (CSS, Figma, styled-components, Storybook) ○ Backend development (nodeJS, TypeScript, NestJS, python, Django, django-rest-framework) ○ Database maintenance (MongoDB) ○ Machine Learning (Computer Vision with Keras) ○ DevOps on AWS, Docker and Google Cloud Platform ○ Google Analytics & Google Tag Manager Before joining the company, Staiy had an outsourced tech department that was under-performing and a crumbling infrastructure. It took forever to fix a ton of issues, but armed with patience and endurance, the turn-around to moving the tech department in-house, fixing a myriad of bugs and having me manage the tech team on an air-tight budget enabled Staiy to secure a 500,000€ investment round at the end of 2021.
January 2020 - June 2020	**Berylls Digital Ventures GmbH**, *Data Scientist*, www.berylls.digital Tasks include: ○ Software development in Python (numPy, pandas, multiprocessing, matplotlib, etc.) ○ Data analytics ○ AWS, Docker, Google Cloud Platform ○ Machine Learning engineering ○ Natural Language Processing (NLP) ○ Image Processing & Computer vision
September 2019 - December 2019	**Staiy**, *Machine Learning Engineer*, staiy.com Developing a search engine from scratch using a labelled dataset of product images to recommend products to users. Technologies used include ○ Python (TensorFlow, Keras, numPy, pandas, Pillow, etc.) ○ Docker ○ SQL (MySQL) ○ AWS
June 2018 - August 2019	**HellaFastForward**, *Intrapreneur & Data Scientist*, hellafastforward.com Developing a chatbot company as CTO from scratch using Rasa, automating internal communications and HR processes in HR departments for companies using natural language processing.
September 2018	**Québec Solidaire**, *Data Analyst*, quebecsolidaire.net Distributing the relevant pieces of information to members of the political party so that they can reach out to the relevant crowds with the relevant message during the last election in Québec (October 2018). Internally discussing integration of AI solutions to improve the political impact of the party at scale using data-driven approaches.
April 2018 - June 2018	**Entrepreneur First**, *Member of the first EF cohort*, joinef.com Backed by the world's best entrepreneurs, Entrepreneur First is a start-up incubator which tries to bring together the most ambitious indiviuals and bring them together to create the world's biggest companies.

Diplomas

2016 - now **PhD**, *Freie Universität Berlin*, paused, to be completed
- ○ Topic : Algebraic group actions on toric varieties
- ○ Supervisor : Prof. Dr. Klaus Altmann

2013 - 2016 **Masters Degree**, *Humboldt-Universität zu Berlin*
- ○ Thesis title : Geometric properties of degeneracy loci of morphisms of vector bundles
- ○ Supervisor : Prof. Dr. Gavril Farkas (https://www.mathematik.hu-berlin.de/˜farkas/)

2010 - 2013 **Bachelor Degree**, *Université de Montréal, Québec, Canada, GPA : 4.3/4.3*
- ○ Graduate courses : Measure Theory, Functional Analysis, Probability Theory, Representation Theory, Elliptic Curves and Modular Forms.

2008 - 2010 **College Degree (CÉGEP)**, *Cégep de Saint-Laurent, Québec, Canada*
- ○ Attended 2 undergraduate courses (Analysis 1 - MAT1000 with Dr. Michel Delfour, Analysis 3 - MAT2100 with Dr. Marlène Frigon) before registering at the university ; these are first and fourth semester courses, respectively. CÉGEP is a diploma between high school and university required in Québec to attend university.

Skillset

Cloud Development
- ○ AWS infrastructure (EC2, S3, ECS, EKS, Lambda, RDS, Route53, IAM, etc.)
- ○ CI/CD automation
  - GitHub Actions
  - CircleCI
  - Bitbucket Pipelines
  - GitLab CI
- ○ Infrastructure-as-Code
  - AWS CDK
  - AWS CloudFormation
  - Pulumi
  - Terraform (in both Azure & AWS)
- ○ Kubernetes: Certified Kubernetes Application Developer.
  - Verification link : https://training.linuxfoundation.org/certification/verify
  - Certificate ID number: LF-p8d8dl7vy8
  - Last name: Silva

Web Development
- ○ Front-end development with React (NextJS, ViteJS)
- ○ Test-driven development with Jest & Enzyme
- ○ Visual component design with Storybook
- ○ Easy deployment and hosting by Vercel, natively built for NextJS projects
- ○ Hosting on Firebase, experience with the Firebase CLI
- ○ Firebase Cloud functions for cloud-hosted backends (for example database APIs with Express)
- ○ Firebase Realtime Database
- ○ Experience with most of the AWS development tools (EC2, S3, CloudFront, RDS, Amplify, Cognito, Elastic Beanstalk, etc.)

Python development
- Experience building highly specializing geomarketing tools in the automotive industry
- Experience building highly specialized AI-powered chatbots using RASA
- Keras for building machine-learning models
- TensorFlow for building specialized and custom machine learning models
- FastAPI, Django & Flask experience for backend API development

Deep Learning (using Keras & Tensorflow)
- LLMs (HuggingFace models, Azure OpenAI, Amazon Q & Bedrock)
- Neural nets
- NLP (spaCy, Word2Vec, etc.)
- image processing for computer vision algorithms
- autoencoders

Data Science
- Scikit-learn & MatPlotLib for analytics & visualization
- SQL database management
- search engine management (ElasticSearch)
- applications deployment with Docker

Typesetting : LaTeX (10+ years of experience)

Mathematical tools :
- Mathematica
- MATLAB
- Sage
- SymPy

Languages

Languages mastered

- German, fluent
- English, fluent
- French, native language
- Danish, Level : B2
- Spanish, Level : B1
- Portuguese, Level : B1
- Finnish, Level: A2

Feel free to contact me via e-mail using the contact information at the beginning of the CV!