Filippos Dimitrios Ktistakis
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Cover letter:

Dear Churney team,

I am applying for the Forward Deployed Data Scientist position in Copenhagen. I recently completed an MSc in Computational Physics at the University of Copenhagen, where I worked with data analysis, optimization and machine learning on practical projects, and I am interested in applying these skills to help consumer companies turn their first-party data into value signals for AI and advertising.

In my MSc thesis I built a misalignment detection tool for neutron scattering simulations in McStas using optimization and machine learning. This involved designing data pipelines, cleaning and transforming complex scientific data, training and validating models and making the workflow reproducible. As a Data Analyst at the University of the Aegean I processed environmental and microbiological datasets, focusing on data quality, structured Python analysis and clear reporting to domain experts.

I am comfortable working with messy, large-scale data and turning it into structured models. Alongside academic work I have built several production applications end to end, including a crypto time series prediction app and commercial products such as a salon marketplace and booking app with AI features. These projects gave me hands-on experience with Python, NumPy, pandas, SQL-style data handling, ML frameworks and deploying models into production environments with REST APIs and backend services.

The role interests me because it combines strong Python and SQL skills with end-to-end ML pipelines, client collaboration and working with cloud data warehouses. I enjoy the full lifecycle from data integration and feature engineering to model deployment and validation, and I communicate clearly with both technical and non-technical stakeholders. I have not worked directly with BigQuery, Snowflake or Redshift yet, but the data modeling and pipeline concepts are familiar from my previous projects, and I learn new tools quickly.

I am motivated by measurable impact and fast feedback loops. My background in turning raw scientific data into reliable tools translates well to integrating client data warehouses, configuring LTV prediction pipelines and validating business outcomes. I would like to contribute to building the signal layer between company data and AI/advertising systems.

Thank you for considering my application. I would be happy to discuss how my experience with Python, data pipelines and ML deployment can support Churney's client onboarding and platform workflows.

Best regards,
Filippos Dimitrios Ktistakis

CV:

Profile
Computational physicist and machine learning engineer with experience in Python based data analysis, modeling and building production ready applications across web and mobile. Comfortable taking data from raw sources to validated models and documented outputs, and used to working with time series, optimization and statistical methods. Also experienced in full stack development, Git based workflows and deploying solutions that are used in practice.

Core skills

- **Machine learning and data science:** Python, NumPy, SciPy, Pandas, Matplotlib, TensorFlow, Keras, PyTorch, scikit learn, time series forecasting, regression and classification, anomaly and misalignment detection, statistical analysis and hypothesis testing.
- **Data pipelines and MLOps mindset:** Structuring analysis as pipelines that move from raw data to cleaned features, models and evaluated outputs, with attention to data quality, documentation and reproducibility.
- **Backend and APIs:** Node.js, Express and NestJS, RESTful APIs, authentication and authorization with JWT and Supabase Auth, integration of AI services such as OpenAI and Groq, and database backed services with PostgreSQL and MongoDB.
- **Databases and data modeling:** PostgreSQL with Prisma, MongoDB with Mongoose, Supabase as a Postgres based backend, including schema design and queries for analytics and product features.
- **Development tools:** Git and GitHub for version control, Docker for containerization, Vercel and GitHub Pages for deployment, automated testing with Jest, Vitest and Playwright, linting and formatting with ESLint and Prettier.
- **Frontend and product work:** React, Next.js, TypeScript and Tailwind CSS for web, Swift and SwiftUI for iOS, Kotlin and Android SDK for Android, and Unity with C# for interactive and game like applications that consume data and ML outputs.

Experience

Data Analyst, University of the Aegean
Lésvos, Greece · Oct 2022 – Aug 2023

- Processed environmental and microbiological data from the Gulf of Kalloni as part of a health study, focusing on cleaning, consistency checks and structured analysis workflows.
- Used Python and spreadsheet tools to transform raw measurements into usable datasets and reports for researchers and decision makers.

- Coordinated with scientists to clarify data definitions and ensure that derived metrics and visualizations matched the goals of the study.

Co Founder and Treasurer, Mediterranean Institute for Education S.C.C.
Greece · 2020 – 2024

- Helped run a non profit focused on scientific, technological and cultural education, including planning seminars, workshops and events.
- Managed budgets and reporting, gaining experience with structured data tracking and documentation.

Teacher, Museum of Experiments (Mouseio Peiramaton)
Athens, Greece · 2015 – 2018

- Taught laboratory experiments in physics, chemistry and biology to elementary school students in a private educational setting.
- Developed clear explanations of scientific concepts, which transfers to explaining data and model results to non experts.

Selected projects

Misalignment Detection Tool for McStas (MSc thesis) – University of Copenhagen

- Developed a misalignment detection tool using optimization and machine learning for neutron scattering simulations in McStas.
- Built data pipelines to generate, process and analyze simulation output, and evaluated models systematically.

Crypto Time Series Prediction App

- Built a prediction system for cryptocurrency prices using Python ML libraries for feature design and forecasting models.
- Implemented ingestion from external APIs, preprocessing, training and evaluation in a structured workflow.

Salon Marketplace and Booking App with AI Features

- Developed a salon marketplace and booking and management app that includes AI supported features, from backend to frontend.
- Implemented authentication, scheduling and integrations with AI APIs, ensuring reliable data flows between components.

Diagnostic and benchmarking tools for scientific projects

- Built diagnostic and benchmarking tools using simulations, data pipelines and optimization for scientific instruments.
- Applied machine learning and statistical methods to detect issues and

improve reliability in experimental setups.

Education

MSc in Computational Physics
University of Copenhagen, Denmark · 2021 – 2024

- Thesis: Development of a Misalignment Detection Tool for the McStas Neutron Scattering Simulation Package Using Optimization and Machine Learning Approaches.
- Relevant courses: Applied Machine Learning, Applied Statistics, Advanced Methods in Applied Statistics, High Performance Parallel Computing, Scientific Computing, Inverse Problems.

BSc in Physics
National and Kapodistrian University of Athens, Greece · 2017 – 2021

- Specialization in Telecommunications, Electronics, Computer Science and Automated Systems.
- Thesis: Machine Learning on Quantum Computers.

Languages

- Greek, native.
- English, proficient.
- Danish, module 3.
- French, B1.