Beria Ayşenur Can

M.Sc. Physics Engineering | Particle & Computational Physics
Istanbul, Türkiye

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Profile

- Graduate student in Physics Engineering with a focus on particle physics and computational methods. Experienced in detector physics, ROOT-based data analysis, numerical modelling, and simulation. Skilled in combining experimental techniques with data science and ML for physics applications. B.Sc. thesis involved radon particle measurement and deep learning-based earthquake correlation studies. Participant in CMSDAS 2024 (materials self-study) and Machine Learning for Fundamental Physics School (ML4FP) 2025 (CERN, online).

Education

- **Istanbul Technical University** *2024 – Present*
  M.Sc. in Physics Engineering Istanbul, Türkiye

  –Specialization in particle physics & computational physics; thesis will integrate CMS experiment data analysis with computational methods.

- **Istanbul Technical University** *2020 – 2024*
  B.Sc. in Physics Engineering Istanbul, Türkiye

  –Graduated **3rd in department**; GPA: 3.3/4.0
  –Thesis: *Investigation of Radon Particle Formation and Measurement for Earthquake Prediction Using Deep Learning*
  –Focus on computational physics, machine learning, simulation techniques.

Experience

- **Adin.ai** *2025 – Present*
  Data Engineer Istanbul, Türkiye

  –Designed and maintained data pipelines; developed skills in handling large datasets relevant to HEP-scale data processing.
  –Automated ETL workflows in Python & SQL, applicable to experimental physics data.

- **TUBITAK 1001 Project** *2023 – 2024*
  Research Student (Scholar) Istanbul, Türkiye

  –Analyzed radon concentration data from 54 detectors in the Marmara region.
  –Applied statistical methods and ML (time-series modelling) to search for correlations with seismic activity.
  –Managed full data pipeline: acquisition, cleaning, visualization, model training.

- **SAS** *2024*
  Associate Analytical Consultant / Technical Intern Istanbul, Türkiye

  –Worked on anomaly detection and analytics projects; experience in model validation and result interpretation.

Selected Projects

- **CMSDAS 2024 Self-Study** *2024*
  ROOT-based analysis of CMS data

- **Quantum Mechanics Simulations in Python** *2023*
  Custom scripts for solving QM problems numerically

- **Seawater Desalination Simulation** *2022*
  CFD modelling using SimFlow and programming in COMSOL

Technical Skills

- **Programming:** C++, Python (NumPy, Pandas, Scikit-learn, TensorFlow, PyTorch), MATLAB, LaTeX
- **Physics Software:** ROOT, COMSOL, SimFlow
- **Tools & OS:** Linux, Git
- **Competencies:** Particle physics data analysis, simulation & modelling, ML for physics, statistical analysis

Training & Schools

- Machine Learning for Fundamental Physics School (ML4FP) 2025, CERN (online)
- CMSDAS 2024 (materials self-study)