

Arundhati Balasubramaniam

arundhati.balasubramaniam@epfl.ch // +41 78 248 65 72 // arundhatibala.github.io

EDUCATION

École polytechnique fédérale de Lausanne (EPFL), Switzerland September 2023 – May 2025

Master's Candidate, College of Digital Humanities, GPA: 5.0/6.0

Relevant Coursework: Machine Learning; Applied Data Analysis; Data Visualisation, Computational Social Media

Ashoka University, India September 2020 – May 2023

Bachelor's in Computer Science (Honours), GPA: 3.88/4.0

Relevant Coursework: Digital Humanities, Biostatistics, Algorithm Design and Analysis

Awards and Honours: Magna Cum Laude, Bronze Medal in CS, Computer Science Representative, Dean's List

RELEVANT EXPERIENCE

EPFL Digital and Cognitive Musicology Lab | *Student Researcher* May 2024 – Present

- Designing and implementing a novel visualisation technique to indicate tonal hierarchy in sheet music for Schenkerian annotation and analysis under supervision of Latour Prof. Martin Rohrmeier and Dr. Yannis Rammos.

Ashoka University | *Undergraduate Teaching Assistant* (x2) January 2022 – May 2023

- Coordinated with the Director of Learning Support (Spring 2023) to support 2 visually impaired CS Majors
- Assisted Professor Soumyottam Chatterjee in his Discrete Maths course (Spring 2022) for over 70 students.

Centre for Analysis of Networks Data and Insight Derivation | *Co-Founder, Researcher* May – August 2022

- Performed sentiment, frequency and network analysis on over 500,000 tweets about the Russia-Ukraine War
- Computed and visualised topic and hashtag absenteeism in 8 major Indian media houses' headlines and articles

Lopez Design | *Visual Design Intern* June – July 2021

- Designed the UI wireframes and landing pages for 6 projects for the studio's website using Figma and Semplice.
- Created over 20 motion graphics on Adobe After Effects to incorporate in the landing pages
- Developed an interactive game on Figma with over 12 iterable modes

FREELANCE

Digital Yoknapatawpha | *Freelance Developer* May 2022 – February 2023

- Collaborated with Professor Johannes Burgers, James Madison University, to design an interactive supplemental site to Norton's Critical Edition of Faulkner's Absalom, Absalom!
- Engineered a scrollytelling graph technique for a dynamic learning experience using Chart.js and Scrollama packages

Contractual Experience | *Freelance Designer, Developer*

- Designed landing page and custom animations for the website of Creative Capital LLC. January 2024
- Blueprinted UI layouts for the website of accounting firm Equations LLC based in Massachusetts. September 2023
- Designed and implemented a shopify website for the business [Neighbour Baker](#). October 2023
- Created a logo suite for the NGO [KiranInc](#) for their rebranding campaign. October 2021
- Conceptualised a logo, banner and social media suite for the sports podcast [She Talks Ball](#). December 2020

PROJECTS

Polyswap | *Future Leaders EPFL* 2024

- One of fifteen Changemakers projects in which I conceptualised and designed an app that can be used to sustainably barter gently-used clothes using a Tinder-like interface among university students.

UnConstitutional AI: Reinforcement Learning to Ethically Train LLMs | *Foundations of Digital Humanities* 2023

- Replicated Anthropic's paper to build an LLM that is trained using a critique-revision loop and rewarded with reinforcement learning to provide ethical and unethical answers on command.

Finetuning MEDIAR for Yeast Cell Microscopy Segmentation | *Laboratory of the Physics of Biological Systems* 2023

- Applied MEDIAR to a novel, LBPS-curated yeast cell microscopy dataset (YeaZ) which resulted in a fine-tuned model that achieves an F1- score of 0.977 and AP score of 0.956 on the dataset.

Lume | *EPFL+ECAL Lab* 2023

- Designed a high-fidelity prototype for an app that can be used to gamify energy conservation in student dorms

SKILLS

Technical: Python (NumPy, SciKit, Pandas, PyTorch), JS (Vanilla, P5, React, D3), Java, C, R, Figma, Adobe CC, QGIS

Languages: English (Fluent), Hindi (Fluent), Tamil (Fluent), Spanish (A2), Italian (A1)

Memberships: New York Academy of Sciences (2016-20), University of Hong Kong's Academy for the Talented (2019-20), National Society of High School Scholars (2019-20), WICCI India-US Business Council (2020-21)