

# Anna Diop

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## Education

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<b>EPFL, Swiss Federal Institute of Technology</b> <i>Double Degree program, Master of Life Sciences Engineering, Minor in Neuroprosthetics</i> <u>Modules included:</u> Neuroscience, biomechanics, neuroprosthetics, computational motor control, biostatistics	<b>Lausanne, Switzerland</b> Sep 2019-Today
<b>Ecole Centrale de Nantes (ECN)</b> <i>A highly selective French School of Engineering conferring a diploma equivalent to a master's degree</i> <i>General Engineering, Specialization in Data Analysis and Applications in Signal and Image Processing</i> <u>Modules included:</u> Machine learning, product design, deep learning, applied mathematics, signal and image processing	<b>Nantes, France</b> Sep 2017-Today
<b>Classes Préparatoires</b> <i>A two year intensive program in mathematics, physics and chemistry, preparing for the national competitive entry examinations for French Schools of Engineering</i>	<b>Dijon, France</b> Sep 2015-Jul 2017
<b>Baccalaureat S</b> <i>French equivalent of High School Diploma/A'levels, obtained with highest honour.</i>	<b>Chalon-sur-Saône, France</b> Jul 2015

## Professional Experience

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<b>Motion Analysis Lab, Spaulding Rehabilitation Hospital, Harvard Medical School</b> <i>Bertarelli Fellowships in Translational Neuroscience and Neuroengineering</i> <i>Master thesis: Exploring Motor Adaptation in Response to Perturbations Generated by a Lower-Limb Exoskeleton</i>	<b>Boston, MA, USA</b> May 2021- Today
<b>EssentialMed</b> <i>Two-month internship: Optimizing the location of oxygen-related services in Western Kenya</i> <ul style="list-style-type: none"><li>• Studied different implementation scenarios of the services by computing travel times between healthcare facilities</li><li>• Mapped and assessed the accessibility of oxygen to a target population by performing zonal statistics using AccessMod and QGIS</li></ul>	<b>Lausanne, Switzerland</b> Feb 2021- Mar 2021
<b>Translational Neural Engineering (TNE) Lab, Center for Neuroprosthetics (CNP)</b> <i>Project in neuroprosthetics: design of interactive physical objects for grasp monitoring in stroke patients</i> <ul style="list-style-type: none"><li>• Designed an ergonomic interactive tool to evaluate grasping, simulated physical behaviors using Finite Element Analysis</li></ul>	<b>Geneva, Switzerland</b> Sep 2020-Dec 2020
<b>Brain and Spine Institute (ICM), Pitié-Salpêtrière Hospital</b> <i>Research internship: development and evaluation of a non linear and multi-contrast registration method to adjust a 3D histological atlas in Parkinsonian patients in the context of Deep Brain Stimulation</i> <ul style="list-style-type: none"><li>• Created a new atlas from the existing one (YeB) combining MNI templates and YeB meshes</li><li>• Evaluated registration methods to find the one best suited to the new atlas and for patient registration</li></ul>	<b>Paris, France</b> Apr 2019-Aug 2019
<b>Nantes University Hospital</b> <i>Study project: improvement of a cerebral decoder of a BCI to control an avatar in virtual reality - team leader</i> <ul style="list-style-type: none"><li>• Recorded brain signals using an EEG monitor on several students</li><li>• Developed a convolutional neural network to decode imagined tasks from signals using braindecode (Python)</li></ul>	<b>Nantes, France</b> Dec 2018-Mar 2019
<b>Air Liquide Healthcare</b> (leading company in medical gases) <i>One-month workman internship</i>	<b>Nantes, France</b> Jul 2018
<b>Parkours</b> (tutoring company) <i>Private tutor for groups of 3 to 5 students from secondary school to high school in all subject</i>	<b>Nantes, France</b> Mar 2018-Jun 2018
<b>CFE-CGC</b> (a French employees' union) <i>Study project: Using good communication to foster inclusion of disabled workers in corporate responsibility policies</i> <ul style="list-style-type: none"><li>• Created a flyer to draw the attention of companies to the high unemployment rate among disabled workers.</li><li>• Created a fact sheet exposing measures to contribute toward greater inclusion of disabled workers.</li></ul>	<b>Nantes, France</b> Jan 2018-Jun 2018

## Skills

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**Computer Skills:** Python, C++, R, Linux, ImageJ, Matlab, 3DSlicer, Solidworks, SCONE, OpenSim, freeCAD, AccessMod, QGIS  
**Languages:** French: native speaker, English: fluent, Spanish: intermediate

## Interests

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**Hackathon:** *Hackahealth* (2020): 3-day event to develop personalized solutions for people with disabilities improving their daily lives.  
**Volunteering:** *Le Lémurien de Madagascar* (2018): manned a food stand at an annual event to collect funds.  
*Odyssea* (2019): assisted in setting up for the race supporting the fight against breast cancer.

*Restos du coeur* (2019): Provided assistance to clients during food bank.

*Book dash* (2018): created a book in English (text and illustrations) to be distributed freely to South African children.

**Sports:** Captain of the ECN Basketball team. Active member of the ECN Handball club. Trained in Basketball refereeing.

**Music:** Piano: 6 years of music academy. Self-taught guitarist.

**Other:** Member of the ECN TedX association: responsible for finding speakers for the event. Trained in First Aid.