Dear Sir or Madam,

At the age of 14 in Luanda (Angola), I saw children from a barrio washing themselves in dirty water while some others were drinking at the same source: a pool of water had formed from a dripping hosepipe set in the ground. It was the only source of water in this part of the town creating the perfect place for a cholera epidemic. I saw diamond mines, oil wells and an incredible potential for sustainable energies, but also villages without electricity or suffering from frequent power cuts, unworkable fields because of mines, and corruption in every part of the society. I have asked myself this question since: what can I do to change this unacceptable situation? I now know that I would like to be an engineer and come up with technological and concrete solutions to such problems.

Thus, as a second year student from CentraleSupelec engineering school, I would like to pursue my studies with one of the best Masters of Science in the Civil and Environmental Engineering department. I am applying for the Systems Graduate Program and then I would like to do a PhD in this department at Berkeley University of California. I am eager to study at your University because I believe it is the heart of innovation and significant human and financial investment is provided to understand and solve environmental and social issues.

After living overseas in Angola and Venezuela for six years, I finished high-school in one of the best establishments in France, Saint Louis de Gonzague high-school, where I improved my abilities to work efficiently. Then, I studied Mathematics, Physics and Engineering Science for two years and took the competitive national entrance examinations to gain admission into one of France’s top Engineering Schools. These two challenging years of intensive studies taught me organize my work efficiently and understand my limits. Thanks to my excellent results at the competitive exams, I managed to get into CentraleSupelec engineering school, where I excelled (3.6 GPA), and studied with interest Systems and Signals, Analogical Electronics, Architecture of auto-programmed systems, Automatic Control and Networks. I was one of the best students out of 300 in Automatics. I got a final A grade in practical exams where I mastered Java, Matlab and Python programming. In my first year, I led with honors (A grade) a research project on the optimization of out-coming data in a 5G, networks.

I was able to put into practice all this knowledge when I carried out an internship at LightSail Energy at Berkeley in July 2014. I completed an autonomous research project on an energy storage solution using phase change materials and I liaised with a lawyer to produce a patent. Working with Danielle Fong, Co-founder and Chief Scientist, developed my creativity and my enthusiasm for research in energy. During this month, I discovered the Bay Area and connected with start-ups like Makani which is developing new wind turbines. Its diversity and its energy impressed me.

My interest in drones and electronics led me to complete a worker internship at Parrot, a successful French drone company, and then to co-found a start-up called SmartX with two other second year students with “UAV-Experience” CentraleSupelec IEEE research program. We are developing an autonomous and flexible swarm of drones’ technology. We have learned neuronal algorithm and automatic systems. In addition, I am coordinating the business development of the project.

I believe that I do not need to wait to complete my graduation to have an impact, and thus I am involved in several associations. I am proud to say that I have created Enactus CentraleSupelec that participates in the worldwide Enactus program. Our aim is to mobilize students to become socially responsible business leaders and entrepreneurs. As team leader, I have learned social economics, how to build a business model, and to be a socially aware student. My involvement with Enactus has helped me further develop my leadership and communication skills. I manage a group of thirty students working on four projects, and discuss with entrepreneurs and companies.

For my postgraduate studies, my desire is to focus on a research program in sustainable technologies and to participate in a large scale project. The Systems Graduate Program will give me the opportunity to put into practice all the skills and knowledge I have acquired from my CentraleSupelec courses as well as the courses I had in preparatory classes: Thermodynamics, Mechanical Engineering, Fundamental Physics and Advanced Mathematics.

I am very keen to join your department. I am hardworking, enthusiastic and dynamic, and I believe that my international experience can help to give a different point of view on world issues. I am interested in the CITRUS institute and Steven D. Glaser’s work on “internet of water”. The work of Ashok Gadgil on heat transfer and energy efficiency in building and his interest on developing countries problems is in accordance with my objectives.

|  |
| --- |
| I am strongly convinced that a Master of Science degree followed by a PhD in your department of Civil and Environmental Engineering will give me the power to make an impact on the world, and is a major step towards achieving my objectives.  Sincerely,  Mathilde Badoual |