

246 Garnier St., Apt 10  
Gatineau, QC, Canada  
J8P 3E5  
☎ 819 743 9839  
✉ louis.lbnc@gmail.com  
🌐 www.lbnc.ca

# LOUIS LEBLANC

---

## Education

- present **Embedded Systems Engineering Certificate**, *University of California, Irvine, Online Extension*, Irvine, California.
- 2013 **BASc in Mechanical Engineering**, *University of Ottawa*, Ottawa.

---

## Experience

- 2015-present **Mechanical Designer**, *Dynamo Playgrounds*, Rockland, Canada.  
Mechanical Design, Manufacturing Support, Industrial Design.
- Technical lead on large scale custom projects from initial design vision through engineering and finally supporting manufacturing.
  - Developed a computational model through full scale dynamics testing of play vehicles. Analysis and insight gained using Python notebooks.
  - Developed a new rope net design process. Reducing design time by 50% while increasing reliability by combining tensile structure theory with empirical data.
- 2014-2015 **Freelance Consultant**, *Prototype D*, Ottawa, Canada.  
Industrial, mechanical design and embedded systems in the development of new products.
- Conceived a novel automated 3D mapping surveying system. Formulated the system's architecture and ultimately fabricated a hardware and software proof of concept using 3D printing and the Arduino platform.
  - Validated the structural integrity of a home cladding system through FEA confirmed by physical testing.
- 2011–2013 **Research Assistant**, *University of Ottawa & Atomic Energy Canada*, Ottawa, Canada.  
Research project in the dynamics of the deflagration of hydrogen mixtures in air. This research was done by blowing soap bubbles filled with a hydrogen-air mixture onto a flat surface and filming their combustion with a high speed camera.
- Development of a technique, apparatus and soapy solution to reliably blow 45cm (18in) soap bubbles.
  - Publications from this research was awarded the American Physics Society's 2013 Milton van Dyke award for a video of fluid motion and was featured on Discovery's Daily Planet.

---

## Skills

- |                    |  |                    |   |
|--------------------|--|--------------------|---|
| <b>CAD</b>         | Autodesk Inventor, Rhino/Grasshopper, Keyshot  | <b>Languages</b>   | Native proficiency in English and French        |
| <b>Electronics</b> | Arduino, Atmel AVR   | <b>Programming</b> | C, Python                                       |
| <b>Office</b>      | MS Office Suite, Excel, Powerpoint, L <sup>A</sup> T <sub>E</sub> X, Adobe Photoshop, Indesign | <b>Hands-On</b>    | Machine Shop Training, MIG Welding, 3D printing |

---

## Publications

L. Leblanc, M. Manoubi, K Dennis, Z. Liang, and M.I. Radulescu. Article and video - dynamics of unconfined spherical flames: Influence of buoyancy. *Physics of Fluids*, 25(9):091106, 2013. Winner of the American Physics Society's Van Dyke award for a video of fluid motion.