Nina M. Lutz

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Education

Massachusetts Institute of Technology (MIT) | Course 6-2   Cambridge, MA
Candidate for B.S in Electrical Engineering and Computer Science | Minor in Design   Jun. 2019
  Engineering: 6.006-Algorithms, 6.336-Numerical Simulation, 6.0001-Python, 6.004-Computational Structures
  Design: 4.031-Design Studio, MAS.110-Foundations of Computational Design
  Spring 2017: 6.031-Software Construction, 6.036-Machine Learning, 6.S08-Embedded Systems,
          MAS.836-Sensors for Interactive Environments, CMS.634: Designing Interactions

Experience

MIT Media Lab, Changing Places Group | cp.media.mit.edu/nina-lutz   Nov. 2015 - Present
Undergrad Researcher, CityScope Development Team   Cambridge, MA
- Programming software for tangible intervention systems. Collaborating and integrating my code via Git.
- Developing algorithms to make visualizations of complex systems like pedestrian networks more realistic, with a particular focus on path finding and trip decision probability models.
- Formulating math models for intervention simulations like gender accessibility in cities or office workflow based off sensor data. Processing, analyzing, and visualizing large sets of spatial data for user intervention.
- Leading individual project that focuses on rendering and standardizing geospatial data for modeling purposes.
- Designing and soldering inductive circuits for tangible user interfaces.

Press Release on some of my team's work: cp.media.mit.edu/blog/agents
Website for my project: changingplaces.github.io/GeoBits
Paper: *Analysis of Tourism Dynamics and Special Events through Mobile Phone Metadata.*
Y. Leng, A. Noriaga, A. Pentland, I. Winder, N. Lutz, L. Alonso. Accepted to Bloomberg Data for Good Exchange, 2016.

PJ's Radio Control | pjsrc.com   Oct. 2012 - Present
Software Developer   Phoenix, AZ
- Developing iOS application to identify broken RC parts in cars and let users buy the replacements from app. Utilizing computer vision (particularly a SIFT algorithm) and machine learning to improve part identification.
- Pitching application to parent company Traxxas in January 2017.
- Designed and developed website. Integrated e-commerce. Optimized SEO for Amazon and other third party retailers.
- Configured fitment database and applied JavaScript filters to website so users can shop parts by vehicle.

Freelance | ninalutz.github.io   Aug. 2011-Present
Website Design and Development   Remote
- Designed and developed a number of responsive websites for a variety of clients, including focus on mobile.
- Programmed sites using HTML, CSS, Boostrap, and JavaScript. Worked directly with clients from concept to execution. Set up local hosting and servers, as well as connected forms and log in portals.

Skills

Programming
Software: Java, Python, Processing, Swift
Familiar: C++, Objective C, Assembly
Web: HTML5, CSS3, JavaScript, P5.js, Bootstrap
Data and Visualization: Processing, D3.js, R, MATLAB, Excel

Electrical
LT Spice, Eagle, Arduino, Soldering
Design and Fabrication
3D Printing, Laser Cutting, CAD, Grasshoper, Rhino
Misc. Interests/Skills:
OpenCV, Projection Mapping, NLP, Machine Learning