Patrick J. Varin

I am an aspiring artist and engineer from Olin College of Engineering, specializing in the study and control of dynamical systems. I value an engaging education and I surround myself with passionate ambitious people that keep me on my toes.

Experiences

Research

- Pattern Formation in Dynamical Systems, paper pending *University of Minnesota*
- Nanoparticle Organization in Dye Sensitized Solar Cells *Olin College*
- Mathematical Modeling of the Human Microvasculature *Olin College*

Professional

- Teacher's assistant for introductory circuits and control theory courses
- Sales Representative for Vector Marketing Corporation

Leadership

- Project manager for a user-oriented design project
- Project manager and lead developer for an educational physics game
- Project leader for two design-based projects developing mechanical children's toys
- Project leader for the development of a model magneto-hydrodynamic drive system

Miscellaneous

- Designed and programmed a mechanical hand to play Rock-Paper-Scissors
- First place in the 2011 International University Physics Competition
- Co-developer of a multiplayer online real-time strategy game
- Developed a USB device to interface a computer game with an electromyograph
- Lead developer for several simulation projects including:
  - Econophysics: the study of macroeconomic phenomena using physical principles
  - Rutherford scattering from a crystalline atomic structure
  - Oscillatory chemical clock behavior
  - Modeling human blood cell populations
- Peer tutor for various courses

Skills Profile

- Control system and circuit design, microcontroller programming and integration
- User Centric Product and Interface Design
- Proficient with Java, C++, Python, MATLAB, LabVIEW, Solidworks and LaTeX

Franklin W. Olin College of Engineering, Olin Way, MB 613, Needham, MA
Patrick.Varin@students.olin.edu (262) 844-0294

Education

Candidate For Bachleor of Science in Engineering **2014**
Franklin W. Olin College of Engineering Needham, MA

- Degree: Engineering with a concentration in Dynamical Systems
- Class of 2014 student government representative
- GPA: 3.84

High School Graduate **2010**
Pewaukee High School Pewaukee, WI

- Second in Class
- AP Scholar with Distinction, National Honor Society, French National Honor Society
- Academic Decathlon State Champion, FIRST Robotics National Competitor
- JV Soccer Captain, Varsity Letter in Soccer, Scholar Athlete
- GPA: 4.2

Relevant Course Material

- Mathematics: Nonlinear Dynamics and Chaos, Partial Differential Equations, Linear Algebra
- Science: Transport Phenomena, Quantum Theory, Electricity and Magnetism, Statistical Mechanics
- Engineering: Modelling and Control, Modelling and Simulation, Principles of Engineering, Software Design
- Design and Entrepreneurship: User-Oriented Collaborative Design, Foundations of Business and Entrepreneurship, Human Factors and Interface Design, Drawing

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