111 Grandview Drive
Glastonbury, CT 06033
860-816-0578 (Cell)

Patrick Kage

patrick@raic.us

EDUCATION

UNIVERSITY OF EDINBURGH — Edinburgh, Scotland — Class of **2021**

HARVARD UNIVERSITY (Extension) — Cambridge, MA — Spring **2017**

Courses: Calculus, Discrete Mathematics

CHOATE ROSEMARY HALL — Wallingford, CT — Class of **2016**

ACT: 34/36

SAT Subject Tests: Math II: 750, **Physics:** 760

Advanced Placement Courses Statistics, Computer Science (Exam Score: 5)

Johns Hopkins Center for Talented Youth — **Student** — **2013, 2014**

Courses: Robotics, Inductive/Deductive Reasoning, Cryptology, Computer Science, Electrical Engineering, Biology.

EMPLOYMENT

NASA Jet Propulsion Laboratory — **Intern, Software Engineering** — **Summer 2017**

Mission formulation operations at JPL Ops Lab, section 397F (Human Interfaces Group).

Aurora Flight Sciences — **Intern, Software Engineering** — **Dec 2016-May 2017**

Developed systems software for an upcoming DARPA-funded joint MIT and Aurora microsatellite research mission (DeMi), as well as reverse engineering and repairing upcoming Aurora internal projects (covered by NDA/ITAR). Created new intellectual property for Aurora and completed IP disclosure for patent submission. Continued development and integration into upcoming missions and contracts underway.

NASA Jet Propulsion Laboratory (JPL) **Intern, Research Software Engineer** — **Summer 2016**

Based out of JPL's 397-F (Ops Lab Human Interfaces Group) to develop mission formulation software to enable design of satellite propulsion systems in support of Team X and Xc's model-based systems engineering and foundry modernization initiatives. Resulting project made part of JPL's long-term strategic plan. Invited to return for internship summer 2017.

MIT STAR Lab — **Intern, Research** — **Summer 2015**

Developed task scheduler monitor for the MiRaTA microsatellite RTOS (Salvo) and Flask/Python-based web dashboard for ground station monitoring and control. Personally presented work at MIT/US Department of Defense Lincoln Laboratory. Worked remotely with NASA's Jet Propulsion Lab (JPL) to identify existing spacecraft buses to fit proposed mission payloads by meeting user-specified constraints (cost, power, etc.). Resulted in JPL invitation for spring facility tour in preparation for summer 2016 internship.

SKILLS

Application Development

Web Application Development	HTML/CSS/JS, SCSS, Node.js, Python, MongoDB, Elm
Native Application Development	Python, Electron, Objective-C
Systems Programming	C/C++, PIC24 Assembly, POSIX

Cybersecurity

Reverse Engineering	Hex editing, disassembly, exploit generation
Pentesting	Metasploit, Ettercap, Wireshark

Creative

Adobe Illustrator	Poster making, print design, web design, application mockups
Adobe Photoshop	Photo enhancement/composition
Final Cut	Video production

Software

MS Office — **PyCharm** (Python IDE) — **Vim** (Text editor)

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PROJECTS

NASA Jet Propulsion Laboratory — **Intern, Software Engineer** — **March 2016**
Invited to spend spring break at JPL in an exploratory capacity, shadowing Team X and Xc operations.

Hewlett Packard Code Wars — **Team Captain/Organizer** — **March 2015**
Intense coding competition for high school students.

Stanford University — **Student** — **Summer 2014**
Explored Objective-C application design for iOS devices.

Stanford University, She++ Diversity Summit — **Speaker** — **April 2014**
Spoke at Google, Facebook, Microsoft, and Oracle panels about gender diversity in computer science.

PRESENTATIONS

MIT Industry Liaison Conference — **March 2017**
Created simulation of microsatellite constellation, presented in Vienna at Austrian Economic Chamber (WKO) and in Munich at the German aerospace agency (DLR).

Choate Rosemary Hall — **2015 - 2016**

Revisit Day	**Conversed with Applicants**	Spring 2015, April 2016 (x2)
Computer Science/Math Dept.	Summer accomplishments described to class	
College Counseling Office	Presented Junior Summer Opportunities	January 2016

She++ — **Fellow, Speaker** — **Stanford University** — **2014**
Addressed CPU's successful inclusiveness of members' gender/ethnic diversity and overall high achievement levels.

EXTRACURRICULARS

Choate Programming Club (CPU) — **Founder** — **Hours:** 480 hours — **2012 - 2016**
Solely responsible for computer science curriculum development, taught and ran coding workshops. Orchestrated assignments, added classes, and did strategic planning. Handled faculty interactions for equipment and materials. Applied and received $1000.00 Google grant. Resulted in the hiring of a dedicated computer science teacher and increasing course choices from 2 to 7 per year with 200+ enrolled students/year from the previous 20.

Math Team — **Member** — **Hours:** 40 hours — **2012 - 2014**
Competed in tournaments and attended weekly meetings.

COMMUNITY SERVICE

Hartford Capital Classics — **Developer** — **2015 - 2016**
Redesigned and maintained Shakespearean non-profit group's website to attract audiences and donors.

St. John's Middle School — **Instructor** — **2012 - 2016**
Prepared and taught a class in robotics to 10 7th-graders

St. Dunstan Church — **Member/Volunteer** — **2012 - 2016**
Numerous events and fundraisers. Helped with Christmas decorations, kitchen, and running cookout.

Choate Rosemary Hall — **Boars Against Hunger** — **2012 - 2016**
Worked with Harvest Pack to package meals for food shipments to insecure families in Haiti and the U.S.

AWARDS

Dean's Awards	Excel in All Subjects	Fall 2016, Winter 2016 and Spring 2016	
Yearbook Superlative	Most Likely to Invent the Next Big Thing		2016
Choate Press Features	Alumni Bulletin	Feature Story	Spring 2016
	Choate News	Highlighted	April 2016
Advanced Computer Science	Award for Excellence	Honorable Mention	2016
	Award for Excellence	First Place	2015
She++	Fellowship Award	Stanford University	April 2016
National Merit Program	Student Award	Commended	2014

LANGUAGES

English: Native — **Polish: Conversational** — **Mandarin: Intermediate**