Elizabeth Paquette
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EDUCATION

Columbia University, New York City, NY   May 2018
Bachelor of Science Major: Computer Engineering

Wesleyan University, Middletown, CT   May 2016
Bachelor of Arts Triple Major: Mathematics, Neuroscience, Computer Science   GPA: 3.6/4.0

WORK EXPERIENCE

Programming Languages and Translators *Teaching Assistant*, Columbia University   September 2017 – Present
- Grade written and coding (OCaml) homeworks and tests
- Assist and guide student groups with creating their own language and implementing a compiler

Functional Hardware Research Group *Research Assistant*, Columbia University   September 2016 – Present
- Write syntax restricting AST transformations (e.g. Lambda Lifting, Defunctionalization) in Haskell for a Haskell to SystemVerilog compiler with a dataflow intermediate representation

Hack Language and Compilers Team *Software Engineer*, Facebook Inc.   May 2017 – August 2017
- Implemented return type inference for Hack type checker using OCaml
- Integrated type inference engine with Nuclide text editor

Energy Aware Computing Research Group *Intern*, Carnegie Mellon University   June 2016 – August 2016
- Generalized existing Boolean inference algorithm to accommodate finite valued logic
- Implemented algorithm with full support, input/output, and testing code in SML
- Analyzed runtime, expressive power, and viability of Lukasiewicz logic based model learning

Computer Science 211/212 *Teaching Assistant,* Wesleyan University   September 2014 – May 2016
- Graded weekly homework and tests
- Held weekly help sessions to teach code style and efficiency in SML and C

Bezout's Theorem *Math Researcher*, Wesleyan University   September 2015 – May 2016
- Explored the correspondence between ideals and varieties in both affine and projective space
- Provided a proof of Bezout's Theorem and presented the results in an honors lecture

Naegele Neuroscience Laboratory *Research Assistant,* Wesleyan University   June 2011 – May 2016
- Conducted research on the interconnections between hyperexcitable dentate granule cells and transplanted GABAergic interneurons in the hippocampus of epileptic mice
- Drafted experimental protocols and write-ups for articles
- Taught hands on procedures and lab skills to peers

Discrete Mathematics 228 *Teaching Assistant,* Wesleyan University   September 2015 – December 2015
- Graded weekly homework and formal proofs for accuracy, style, and clarity
- Held weekly sessions to go over concepts and homework and LaTeX help sessions

REU in Algebraic Geometry and Number Theory *Researcher*, LSU   June 2015 – August 2015
- Employed computational methods to examine the correspondence between Belyi functions and Dessin d'Enfants under the supervision of Jorge Morales
- Investigated whether computing the Groebner bases of ideals of polynomials over the field F_p is more efficient than over a field k, with char(k) = 0

SKILLS

Computer Science and Math: Haskell, OCaml, SML, C, Python, Mathematica, Sage, LaTeX
Office Skills: Word, Excel, Adobe Photoshop, Premier, and Illustrator
Neuroscience Lab: Stereotaxic Surgery, Perfusions, Cryostat Sectioning, Vibratome Sectioning, Immunohistochemical Staining, PCR, Confocal Microscopy