ALEXANDER WERTHEIM

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EDUCATION

University of California, Los Angeles   **Los Angeles, CA**
Doctor of Philosophy in Mathematics   Sep 2015 – Jun 2020(expected)
- Advisor: Alexander Merkurjev
- Cumulative GPA: 4.0/4.0
- Qualifying Exams Passed: Algebra, Geometry & Topology, French Language
- Relevant Coursework: Graduate Algebra; Commutative Algebra; Algebraic Geometry; Homological Algebra; Differential Topology; Differential Geometry; Algebraic Topology

Duke University   **Durham, NC**
Bachelor of Science in Mathematics   Aug 2010 – May 2014
- Cumulative GPA: 3.96/4.0; Summa Cum Laude
- General GRE Q/V/W: 169/170/5.0
- Math Subject GRE: 850 (88th percentile)
- Relevant Coursework: Groups, Rings and Fields; Complex Analysis; Algebraic Structures I & II; Differential Geometry; Advanced Calculus I; Probability; Combinatorics; Ordinary/Partial Differential Equations; Quantum Mechanics; Thermal Physics
- Senior Thesis: Complex Multiplication on Elliptic Curves

WORK EXPERIENCE

Epic Systems   **Verona, WI**
Software Developer   Jul 2014 – May 2015
- Created data analysis tools to help hospitals improve patient care and organizational efficiency
- Provided customer support for performance issues and authored several internal technical resources

Duke University Department of Mathematics   **Durham, NC**
Undergraduate Research Fellow, Number Theory and Algebraic Geometry   May 2013 – Aug 2013
- Studied the construction of abelian extensions of different imaginary quadratic fields via the techniques of complex multiplication on elliptic curves
- Researched work of Shimura on class fields over real quadratic fields

Undergraduate Researcher, Mathematical and Computational Biology   May 2012 – Jul 2012
- Implemented a mathematical model of solute reabsorption in the kidney by computing solutions to a system of partial differential equations recast as a system of coupled ordinary differential equations
- Investigated dynamic response of an epithelial kidney cell in response to an intracellular perturbation via similar techniques
- Programmed simulations and produced graphical representations using MATLAB
- Gave several talks presenting the research results to students and faculty at Duke

Teaching Assistant and Grader, Differential Equations   Jan 2012 – May 2012
- Tutored and led help sessions for students in the class
- Graded problem sets and exams

HONORS

- Graduation with Distinction in Mathematics
- Phi Beta Kappa
- PRUV Fellow (recipient of Duke undergraduate research fellowship in pure mathematics)
- Dean's List with Distinction (Spring 2011, Fall 2011, Spring 2012, Spring 2013)

Skills

- Programming Languages: C++ (intermediate), MATLAB (intermediate), Python (basic)
- Languages: English (native), French (basic)