Sloan **Nietert**

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I'm seeking to combine my background in mathematics with my research and professional experience in applied algorithms as a doctoral student with a research focus in **network science**, **graph algorithms**, and **machine learning** in the context of networks.

Education

Clemson University
Clemson, SC

B.S. in Mathematics, B.A. in Computer Science (Honors) — *Aug. 2015 - Exp. Aug. 2018*

- 4.0 GPA, with graduate coursework taken since freshman year

Budapest Semesters in Mathematics
Budapest, Hungary

- Finished semester with highest honors, took advanced graph theory course with László Lovász — *Jan. 2017 - May 2017*

Relevant Coursework

Graduate
Network science, functional analysis, mathematical programming, quantum mechanics, graph theory, probability, combinatorics, measure theory & integration, linear analysis

Undergraduate
Theory of computing, algorithms & data structures, algebraic topology, convex geometry, linear algebra, computer organization

Honors & Awards

2017	**2nd Place (Division I) at Site, 4th School Overall**, ACM Southeast USA Regional ICPC	*Atlanta, GA*
2017	**2nd Place Overall, Best Use of Wolfram Technologies**, HackMIT	*Cambridge, MA*
2017	**Best Undergraduate Project**, Clemson School of Computing	*Clemson, SC*
2017	**Sophomore Award**, Clemson Department of Mathematical Sciences	*Clemson, SC*
2017	**Highest Honors**, Budapest Semesters in Mathematics	*Budapest, Hungary*
2016	**$3,000 Educational Enrichment Travel Grant**, Clemson Calhoun Honors College	*Caye Caulker, Belize*
2016	**Freshman Award**, Clemson Department of Mathematical Sciences	*Clemson, SC*
2015	**$1,000 Team Prize**, Moody's Mega Math Challenge	
2015	**Finalist**, National Merit Scholarship Organization	
2014	**Scholarship Recipient**, National Security Language Initiative for Youth (NSLI-Y)	*Seoul, South Korea*

Publications

Assessing the Correlation Between Physical Activity and Quality of Life in Advanced Lung Cancer
Bade, B., Brooks, M., Nietert, S., Ulmer, A., Thomas, D., Nietert, P., Scott, J., Silvestri, G.

Integrative Cancer Therapies. Advance online publication, December 2016. doi:10.1177/1534735416684016

Experience

Clemson School of Computing Algorithms and Computational Science Lab
Clemson, SC

Research Assistant — *Sept. 2017 - Present*

- Integrating stable matching into aggregation stage of algebraic multigrid Laplacian solver, preparing paper for publication
- Optimizing shot placement for radiation treatment with experimental gamma knife, using sphere packing and linear programming

Facebook
Menlo Park, CA

Software Engineering Intern — *May 2017 - Aug. 2017*

- Implemented new features to promote learning and education within Facebook groups, working on frontend with React and extending backend infrastructure with Hack and GraphQL - received return offer
- Led machine learning project to identify candidate groups for new features, utilizing Python, Hadoop, and MySQL

Medical University of South Carolina — *Charleston, SC*

Research Assistant — *June 2016 - Aug. 2016*

- Coordinated high density electroencephalograph (EEG) study investigating effect of muscle activity on recording quality
- Scheduled and performed recordings for nearly 20 subjects, used MATLAB for spectral and temporal analysis of collected data
- Continued biostatistics work for study investigating efficacy of exercise prescription in lung cancer patients

Space and Naval Warfare Systems Center Atlantic — *North Charleston, SC*

Science and Engineering Apprenticeship Program (SEAP) Intern — *June 2015 - Aug. 2015*

- Managed EEG collection for cognitive science lab seeking to incorporate this technology into military training and assessments
- Performed computational analysis of collected data for several experiments using EEGLAB software

Extracurricular Activity

Association for Computing Machinery — *Clemson, SC*

Webmaster & Competitive Programmer — *Jan. 2016 - Present*

- Represent Clemson in hackathons across the country, including HackMIT and HackGT, compete in ACM International Collegiate Programming Contest
- Led web and backend development for Code for Carillon project, creating web app for students to vote on and upload music to be played on Clemson bell tower, awarded over $55,000 by student government to upgrade electronic system controlling bells

Clemson UNICEF — *Clemson, SC*

Chair of Advocacy & Publicity, Founding Member — *Oct. 2015 - Dec. 2016*

- Received volunteer service award for organizing club's first major event series with a focus on education inequality in South Carolina
- Represented Clemson at national student summit and lobbied on behalf of UNICEF to several of our state representatives in Congress

Math Club — *Clemson, SC*

Speaker, Contest Competitor — *Oct. 2015 - Present*

- Gave lecture series on dyadic calculus and talk on theory of graphons, tutor local middle schoolers
- Compete in Putnam exam, recently scoring 27 (top 18%), attend weekly seminars

Undergraduate Student Government — *Clemson, SC*

Senator, Member of Athletics & Sustainability Committees — *Sep. 2015 - Dec. 2016*

- Served as one of five freshmen senators, organized Sustainability Awareness Week, worked to keep tickets to athletic events affordable for students, passed funding legislation for several student organizations

Presentations

Graphons: Taking Graph Theory to its Limits — *Clemson, SC*

Clemson Math Club — *Nov. 2017*

- Gave talk discussing new theory of graphons for describing the limit objects of large networks

PlotRoomba — *Cambridge, MA*

HackMIT Finals — *Sept. 2017*

- Presented award-winning project, a mash-up of robotics, mathematics, and live streaming, to an audience of CEOs and researchers

Dyadic Calculus: The Basics — *Clemson, SC*

Clemson Math Department — *Mar. - April 2016*

- Gave survey of recent advances in dyadic calculus and their measure-theoretic applications to an audience of graduate students

Skills

Programming Python, MATLAB, C++, Java, JavaScript, TypeScript, PHP, Mathematica
Web HTML5, CSS3, React, Redux
Languages Spanish, Korean, LaTeX