Stephen Lewis

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Education

9/09-8/14	**PhD in mathematics**, *University of Washington*, Seattle, WA.
8/05-5/09	**BA in mathematics, minor in CS, summa**, *University of Colorado*, Boulder, CO.
MOOCs	**Machine Learning**, **SQL/Relational DB**, **Cloud Computing** (ongoing), **Mining Massive Data Sets** (ongoing)

Programming Experience

Languages	Python/Numpy/SciPy (6 years math research), C++ (2 years CS studies), LATEX(8 years), jQuery/HTML/CSS/Javascript (2 years personal web development), SQL (recent)
Sample Project Summary	Designed and built a Python package which could compute solutions to many ($\sim$20,000) PDE while running a geometric optimization search in under 3 hours using object oriented design, sparse matrices, and simulated annealing.

Career Goals

I'm interested in software development, algorithm design, data science, and data engineering.

Professional Experience

8/14-12/14	**Dunham Jackson Asst. Professor**, *University of Minnesota*, Minneapolis, MN. Instruct and design upper level classes, perform research.
9/09-8/14	**Instructor; RTG-NSF Fellow; TA Mentor; TA**, *University of Washington*, Seattle, WA. Instruct courses, perform research, train new teachers, TA courses, serve on student committees.

Core Strengths and Skills

Adaptability: several areas of research and study.
Communication: 18 talks and 1 poster presented in technical research.
Passionate learning: self-taught in Python.
Leadership: founded the **UW Grad. Student Analysis Seminar**, grew it to 24 members, trained replacement organizers.

Courses Taught

Upper Div.	Applied Linear Algebra (**web**), Real Analysis, Linear Analysis, Advanced Multivariable Calc.

Research and Publications

Big Picture	I've researched a mix of **discrete combinatorics** and **continuous geometry**. My work included many software projects, including writing **scripts for symbolic computation** and designing packages employing **computationally intense linear algebra and optimization**.

- J. w/ Matt Badger. *Local set approximation: Mattila-Vuorinen type sets, Reifenberg type sets, and tangent sets.* arXiv ref:1409.7851
- *Singular points of Hölder asymptotically optimally doubling measures.* arXiv ref:1301.1993
- J. w/ M. Aguiar et al. *Supercharacters, symmetric functions in noncommuting variables, and related Hopf algebras.* Advances in Math 229 (2012), no. 4, 2310-2337.
- J. w/ Nat Thiem. *Nonzero coefficients in restriction and tensor products of supercharacters of $U_n(q)$.* Advances in Math 227 (2011), 40-72.

Theses	Doctoral and senior theses available at **stephen-lewis.net**

Other Accomplishments

- One of three recipients of the Academic Excellence Award in the UW math dept. (2010)
- Invited talks at U. de Grenoble, U. de Paris Sud XI, U. of Minnesota, two AMS Special Sessions