

Sophie Koffler

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EDUCATION

University of Massachusetts Amherst

College of Information and Computer Sciences

Master's in Computer Science, *GPA 3.735*

May 2018

Bachelor's in Computer Science and Mathematics, *Cum Laude*

May 2004

Bay State Fellowship: Tuition-free Master's degree with small assistantship.

Relevant Coursework: Advanced Algorithms, Computation Theory, Logic of Computer Science,

Advanced Information Assurance, Information Retrieval, Operating Systems, Artificial Intelligence

TECHNICAL SKILLS:

Programming Languages: Java, SQL, Python, CGI, PHP, C++, HTML5, CSS3, JavaScript, Flash, Scheme

Operating Systems: Windows 98/2000/XP/Vista/7/10, UNIX

Software: Microsoft Office, GIMP, Photoshop, Visio, GeoGebra, nauty, MAGMA, LaTeX, Access

Development Tools: Git, Node.js, matplotlib, Eclipse, Maven, CVS/ANT

Oracle Certified Professional: MySQL 5.0 Developer

Oct 2011

PROFESSIONAL EXPERIENCE

University of Massachusetts Amherst

Amherst, MA

Teaching Assistant: Programming with Data Structures

Jan 2017 - May 2017

- Assisted students with course material and helped them debug their programming projects during weekly office hours.
- Led four laboratory sections a week, outlining the assignment, covering areas of difficulty and answering questions. Edited weekly lab materials before provided students with timely access.
- Proctored exams to help answer student's questions. Graded exams to allow the professor to focus on other responsibilities.

Graduate Research Assistant under Professor Neil Immerman

May 2017-Jan 2018

- Searching for a polynomial time language capable of capturing graph isomorphism, read seminal and current research papers on topics including descriptive complexity and graph isomorphism.
- Prepared weekly presentation of material covered containing proofs and examples, presented at the blackboard to practice teaching skills.

Teaching Assistant and Grader: Introduction to Programming with Python

Jan 2016-May 2017

- Held office hours and assisted students in debugging their programs/learning concepts.
- Graded programming projects, homework and exams.
- Proctored exams, verified rubrics, and developed homework questions.

SLK Designs: Handcrafted Artisan Jewelry

2007-2015

Sole Proprietor, Jewelry Designer, Artisan, Photographer, Office Manager and Sales Person

- Specialized in off the loom bead weaving. All work consisting of one of a kind, original designs.

Stamford Land Conservation Trust, Stamford, CT

2009-2015

Database Administrator/Developer

- Redesigned database schema and developed a library of queries to assist with a targeted fundraising campaign aimed at increasing annual revenue.
- Generated contribution responses and mailing lists used for fundraising purposes and mailing newsletters to members. Performed data entry.
- Migrated the database from Access 2003 to Access 2007.

Director/Secretary

- Chaired the membership committee, directed accreditation process with the LTA (Land Trust Alliance) and sat on various committees.
- Attended board meetings and recorded, typed, edited, and distributed the minutes.
- Contributed to stewardship of properties including monitoring parcels for encroachment and dumping. Participated in annual cleanup of each parcel.
- Digitized organizational records to serve as backup of original documents as required by the LTA.

PROJECTS

SLKDesignsjewelry.com Spring 2019

- Designed and built a portfolio website for my jewelry business SLK Designs.
- Learned php and solidified experience with AJAX while making the site dynamic.
- Layout is done with css flexbox and JSON and a mysql database are used to store inventory data.

The Security of Biometric Authentication Spring 2018

- Wrote a survey paper for Advanced Information Assurance on the security of biometric authentication in smartphones.
- Discussed fingerprint sensors, facial recognition and behavioral biometrics including multi-touch gestures.

Research Project on Graph Canonization Summer 2016

- Implemented the 1st and 2nd dimensional Weisfeiler-Leman methods in Python.
- Built a web application that allowed users to upload graphs and run either method on them, presenting the user with a data visualization of the output at each stage of the algorithm.
- Learned how to build a web application; program the entire stack. Learned CGI and became familiar with matplotlib and NetworkX which were used to create data visualizations.

Volunteer Experience

Save the Children US

Internet Communications and Marketing Intern Summer 2012

- Updated web content including the generation and modification of html forms pertaining to specific fundraising campaigns. Assisted with web performance optimization.

Project Return Spring 2013

- Trained technologically illiterate executive on basic computer usage: Outlook, Gmail, Facebook, and LinkedIn.
- Suggested styling and layout updates to the organization's website.

Outreach

Women in Engineering and Computing Career Day Fall 2016

- Mentored high school students during what was a first exposure to programming for many.
- Guided students through a series of MIT Scratch exercises of increasing difficulty.