Alexandria A. Pokorny

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Young Professional with studies in Computer Science and Mathematics accomplished in software development, testing, and documentation. Published researcher with experience in data analytics, digital image processing, and computer vision. Experienced conference organizer and program administrator. Skilled tutor and teacher with a passion for continued learning.

CORE PROFICIENCIES

Languages & Computing	Applied Experience	Notable Coursework
➤ Java & OOP Design	➤ Image Processing & Computer Vision	➤ Statistics for Data Analysis
➤ Python	➤ High-Throughput Plant Phenotyping	➤ Regression Analysis
➤ C++, C# & ASP.Net Development	➤ Parallel & Batch processing	➤ Calculus I, II, III, Advanced
➤ SQL for Database Management	➤ Software Development & Testing	➤ Data Structures & Algorithms
➤ R Programming for Data Analysis	➤ Data Science & Machine Learning Tools	➤ ASP.Net Development
➤ Bash – Unix Shell	➤ HTCondor Computing Cluster	➤ Modelling & Experimental Design

PROFESSIONAL EXPERIENCE

Illinois State University, Normal, IL **October 2018-Present**
Data Science, P.E.E.R Program

- Performed ordinal data analysis for faculty within the Family Consumer Sciences Department.
- Evaluated study strength and recommended data acquisition improvements.

Illinois State University, Normal, IL **August 2018-Present**
Teaching Assistant, Department of Mathematics

- Instructed MAT 150: Fundamentals of Statistical Reasoning: creating and proctoring exams and grading.
- Tutored students, addressing questions and concerns.
- Presented class progress reports to my supervisor, recommending course scheduling changes.

11th International Symposium for Biomathematics, Ecology, Education and Research 2018
Conference Organizer

- Organized all speaker sessions and mini-symposiums schedule, coordinated with speakers, including plenary and keynote speakers, approving all materials and abstracts to ensure quality content.
- Utilized Microsoft Suite tools for conference administration, i.e. conference website, program, attendee materials.
- Coordinated pre-conference and on-site support at hosting institution, Arizona State University.

Donald Danforth Plant Science Center, St. Louis, MO **May 2018- August 2018**
Bioinformatics Intern

- Contributed development of PlantCV, a suite of Computer Vision tools for High-throughput Phenotyping.
- Implemented a new color space standardization method in PlantCV as a subpackage and developed a new, robust method for background subtraction, including associated software testing and documentation.
- Processed over 200,000 images of *Sorghum bicolor* on Danforth's HTCondor computing cluster, applying parallel computing techniques and batch processing.
- Analyzed preliminary phenotype data from image processing and prepared for downstream processing.
- Supported laund of PlantCV version 3 release at "PlantCV Day," and worked with clients to collect requests for future tools and development
- Published contributing author for PlantCV citation.

Scribe America, St. Louis, MO **April 2017-April 2018**
Medical Scribe, SSM St. Mary's Hospital

- Documented patient charts by assisting ER physicians during patient appointments using Epic Healthcare Clinical Software to maintain accurate patient records, administering provider messaging and support.
- Completed training and on-going education for required medical terminology and ER practice protocols.
- Assisted patients by coordinating comforts, i.e. food, pillows, blankets.

EDUCATION

Post-Baccalaureate Studies in Computer Science & Bioinformatics Fontbonne University, St. Louis, MO

- GPA: 3.816/4.0
- Dean's List, all semesters

Bachelor of Science in Mathematics Illinois State University, Normal, IL

- GPA 3.25/4.0
- Honors Program
- Accelerated admission entering with sophomore standing

RESEARCH

Donald Danforth Plant Science Center
Image Processing for high-throughput Phenotyping **Summer 2018**
Citation: Berry JC, Fahlgren N. Pokorny A.A., Bart RS, Veley, KM (2018) An automated high-throughput method standardizing image color profiles to improve image-based plant phenotyping. *PeerJ* 6:e5727. https://doi.org/10.7717/peerj.5727

- Implemented a method for color space standardization as a new subpackage in PlantCV, a software for Plant Phenotyping written in Python using OpenCV, Numpy, Matplotlib and others, available on GitHub.
- Developed, tested and completed documentation for the subpackage, available here: https://plantcv.readthedocs.io/en/latest/
- Presented research as the only M.S. student speaker within the program curriculum at the 11th International Symposium for Biomathematics, Ecology, Education and Research (BEER-IX), Tempe AZ, October 2018.

Department of Mathematics, Illinois State University
Undergraduate Research in Mathematics **Spring 2016**
Citation: Abels B, Brown N, Jordan H, Pokorny AA. (N.d.) ±Skolem-Type Difference Sets.

- Developed methods for partitioning 3-tuple ±Skolem-Type and ±Langford-Type Difference Sets.
- Generalized methods for partitioning to m-tuple sets.
- Applied to decomposition of circulant digraphs into cycles.
- Presented research at the Undergraduate Research Symposium, Illinois State University, April 2016.

VOLUNTEER & EXTRACURRICULAR ACTIVITIES

- Student Member, Association for Computing Machinery 2017 - *Current*
- Circus Performer, Bumbershoot Aerial Arts & Gamma Phi Circus 2010 - *Current*
- Women in Technology and Science 2018 - *Current*
- Software Development Contributor, PlantCV 2018
- Private Calculus Tutor for a Ladue High School Student 2017 - 2018
- Calculus Tutor, Honors Program, Illinois State University Spring 2015
- Aerial Silks Coach, Jr. Gamma Phi Circus, Thomas Metcalf School 2013-2014