

## Alexandria A. Pokorny

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<https://github.com/aapokor>

Software Developer with degrees in Computer Science and Mathematics accomplished in API Development and Machine Learning Solutions implementation. 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	► Agile Software Development	► Statistics for Data Analysis
► Python, Pandas for Data Analysis	► Machine Learning Solutions	► Regression Analysis
► C++, C# & ASP.Net Development	► API Development & Testing	► Calculus I, II, III, Advanced
► AWS Sagemaker	► High-Throughput Plant Phenotyping	► ASP.Net Development
► Behavior Driven Development	► Data Science & Machine Learning Tools	► Genetics, Genomics & Bioinformatics
► Image Processing & Computer Vision	► HTCondor Computing Cluster	► Modelling & Experimental Design

### PROFESSIONAL EXPERIENCE

**State Farm Insurance**, Bloomington, IL

**January 2019 - Present**

#### Software Developer – Big Data

- Implementing Machine Learning Solutions in Claims.
- Using Agile software development practices
- Developing APIs in Java using Behavior Driven Development, Spring Boot, Pivotal Cloud Foundry
- Attended training sessions on Spring Boot and Pivotal Cloud Foundry
- Attended Amazon Web Services Sagemaker Conference – March 2019
- Participated in HackDay 2019

**Illinois State University**, Normal, IL

**August 2018-Dec 2018**

#### 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 launch 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, Velez, 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.)  $\pm$ Skolem-Type Difference Sets.

- Developed methods for partitioning 3-tuple  $\pm$ Skolem-Type and  $\pm$ 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 - 2019
- Circus Performer, Bumbershoot Aerial Arts & Gamma Phi Circus 2010 - 2019
- Women in Technology and Science at Illinois State University 2018
- 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