

Samuel Revolinski

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EDUCATION

- 2017-
Present **PhD student, Crop Science**
Washington State University
Thesis: Satellite Assisted Wheat Breeding
GPA: 4.0
- 2013-2017 **Bachelor of Science, Plant Science**
University of Minnesota, Plant Science
Emphasis: Plant Breeding and Genetics
GPA: 3.579

PROFESSIONAL POSITIONS

- 2017-
Present **Research Assistant**
Department of Crop and Soil Sciences, Washington State University,
Pullman, WA, USA
- 2014-2016 **Greenhouse Maintenance Assistant & Pesticide Applicator**
Plant Growth Facility, University of Minnesota
St. Paul, MN, USA
- 2016 **Student Research Technician: Forages**
Department of Agronomy and Plant Genetics, University of Minnesota
St. Paul, MN, USA
- 2015 **Student Research Technician: Woody Plant Breeding**
Department of Horticulture, University of Minnesota
St. Paul, MN, USA
- 2014 **Student Research Technician: Flower Breeding and Genetics**
Department of Horticulture, University of Minnesota

COURSEWORK

Course	Number	Grade
C / C++ Program Design & Development	CptS 121	A
Linear and Non-linear Mixed Models	Stat 574	A
Data Structures C/C++	Cpts 122	A
Statistical Genomics	Crop_Sci 545	A
Unmanned Aerial Systems in agr	Bsyse 552	A
Time Series	Stats 516	A
Advanced Cropping Systems	Crop_sci 503	A

TECHNOLOGICAL EXPERIENCES

- Used “keras” library in python to implement multi-layer perceptrons, autoencoders, and convolutional neural networks.
- Implemented R, C++, and python for processing genetic and remote sensing data
- Implemented regression models to fit trends in genomic and geospatial data
- Analyzed data with mixed models to account for grouping structure
- Performed genomics selection and assessed to accuracy of SVM, rrBlup, PLS, Principal Component Regression, and Bayes Alphabet models
- Used Computer Vision techniques to perform basic segmentation
- Modeled non-linear curves and extracted parameters for GWAS.
- Performed GWAS on a number of different species
- Assessed power of GWAS models through simulation
- Explored the incorporation of population structure for GWAS models
- Used QGIS to open and extract relevant information from Geo-tiff files
- Predicted time series with ARIMA models in SAS
- Created figures with ggplot2 and base graphics in R
- Stitched together UAs drone images using pix4D
- Administrated a high performance Linux server and windows desktops in the ZZlab

LAB AND FIELD EXPERIENCES

- Maintained Breeding Populations in green houses and the field
- Utilized cytogenetic methods such as FISH
- Made crosses in a number of species
- Mixed fertilizer treatments with specific PH
- Started Plants in greenhouses and transferred into fields.

PROFESIONAL PRESENTATIONS

- PAG 2018
- PAG 2019

SOFTWARE DEVELOPED

Auto encoder for Genomic Dimensionality Reduction

AD HOC REVIEW

PLoS One

PROGRAMMING SKILLS

R, Python, C, C++

SCHOLARSHIP AND AWARDS

- Dr.E Smith Scholarship for agriculture, \$2500, 2016 –2017
- O.A Vogel Washington Crop Improvement Association Scholarship, \$375, 2018-2019
- Roscoe and Frances Cox Scholarship, \$1250, 2018-2019
- Washington Wheat Foundation Award 2018, \$3500