

Software Developer Software Developer Software Developer - University of Pittsburgh, Department of Human Genetics Pittsburgh, PA Work Experience Software Developer University of Pittsburgh, Department of Human Genetics February 2016 to February 2019 C++ Development ? Used object oriented C++ skills in order to develop new features for Mega2, a suite for transforming genetic data. ? Improved my C++ skills in order to accomplish the creation of new features and to incorporate external tools. ? Learned more advanced C++ debugging skills to resolve issues that arose. New Mega2 Features Created ? Implemented and designed new output modes for Mega2 including BCF/VCF file format, MQLS-XM/KinInbcoef. ? Refactored input and output methods into Mega2 to incorporate the newer BCFTools library. ? Added functionality to Mega2 to incorporate reference panels into genetic data. ? Wrote a pipeline for imputation of Mega2 inputted genetic data using MaCH, Minimac3 and Shapeit. Team Development ? Worked with a small team simultaneously to accomplish complex goals. ? Utilized Git and Bitbucket in order to foster simultaneous development. ? Wrote user and developer documentation of Mega2. Software Developer University of Pittsburgh, Center for Craniofacial and Dental Genetics August 2012 to January 2016 PHP/Drupal Development ? Learned PHP for general-purpose web based development on projects. ? Learned Drupal to participate in module development for the FaceBase website. ? Utilized skills in PHP, Drupal, MySQL, and jQuery in order to build modules. Scientific Tool Development ? Created an image browser for quick inspection of 3d image data from slices. ? Constructed a plotting tool for representation of microRNA data. ? Created a tool for filtering human phenotypic data for craniofacial measurements. ? Built a tool in order to create Manhattan plots, and LocusZoom plots of GWAS data. ? Used Snap Survey to construct electronic forms to collect phenotype data. Internal Support ? Created internal tools and completed tasks for various requests for departmental use this: included report creation, automated plotting of data, file manipulation, PLINK analysis. ? Used C#, Java, C++, R, Python, VB in the construction of these internal tools. ? Continued to update and maintain these applications and scripts as need arose. Software Engineer Allegheny Health System - West Penn, PA October 2011 to April 2012 C#.NET Developer ? Utilized C#, ASP.net, and the MVC framework to create a physician's signout system. ? Created an

application for submitting employee clinical data to insurances. ? Developed software used by the help desk in order to aid in user support. Application Support ? Actively worked with physician's beta testing our new developed signout system. ? Completed bug fixes reported by end users. Team Development ? Worked on SCRUM teams in order to accomplish large goals with strong organization. ? Utilized source control methodologies to facilitate simultaneous development. Undergraduate Researcher/Programmer University of Pittsburgh, Department of Physics and Astronomy February 2008 to April 2011 Physics Modeling ? Applied computational programming in C language to calculate complex integration loops confirming the detectability of a gravity wave signature from the early universe. Computation Programming ? Leveraged extensive database language from the GNU Scientific Library to enhance the robustness of models. ? Applied programming skills I learned during my research in order to improve numerical methods used. ? Conducted model validation using Calculus, Differential Equations, Linear Algebra and Tensor Analysis. Team Contributor ? Contributed presentations to weekly science meetings within our department. This included paper discussions as well as progress on internal individual/group projects. ? Worked within a group focused on running magnetohydrodynamic simulations. Education Bachelor of Science in Physics and Astronomy, Mathematics University of Pittsburgh, School of Arts and Sciences August 2007 to April 2011 Skills C, C++, Programming, C#, Python, MySQL, SQL, PHP, NET, Computer Science, Linux, Java, Javascript, Physics, Mathematics, Git, jQuery, HTML 5, TensorFlow, R, Drupal, PyTorch

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