

James Gerity

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<https://github.com/snoopjedi>

Education

2020 (expected) PhD, Physics

Texas A&M University (College Station, TX)

Research interests: transport of intense charged particle beams through magnetic lattices, particle-in-cell simulation, magnetic and mechanical design of cost-effective superconducting dipole and quadrupole magnets for scientific, industrial, and medical applications.

2011

B.Sc. Physics

B.Sc. Mathematics

University of Maryland, Baltimore County (Baltimore, MD)

Work Experience

Nov 2019-Present(furloughed) Software Engineer, Neurala, Inc.

Python-centric member of the Applications Engineering team. Responsibilities include the development of Flask servers to provide customers with REST APIs for interacting with in-house inference engines, maintenance of Python language bindings to a large C++ codebase generated with SWIG, and refactoring machine learning research prototypes (e.g. TensorFlow) to create reliable products.

2011-Nov 2019 Research Assistant, Texas A&M University (College Station, TX)

Conducted research on improvements to particle accelerators with the Accelerator Research Laboratory. Responsibilities included designing and running simulations (COMSOL multiphysics, finite elements, particle-in-cell), analyzing results and producing summary plots and technical reports, as well as mentoring new graduate and undergraduate students.

2008-2011 IT Administrator, Leonard Paper Company (Baltimore, MD)

Served as head of IT, responsible for ~100 desktop workstations, ~40 laptops, Oracle and MySQL databases, and AIX, Windows, and Linux servers. Interacted with users to resolve computer problems, automated administrative processes and reporting, and advised company management on long-term IT decisions (e.g. software upgrades, telephony, hardware purchasing). Created custom version of the terminal emulation software PuTTY to interface with proprietary inventory system, replacing equivalent software for a savings of \$400/seat and allowing the entire salesforce to use the system concurrently.

Programming Languages and Skills

Python: proficient with the SciPy stack, standard libraries, pytest. Experience developing and deploying Flask servers on a uWSGI+Nginx stack in both standalone and containerized Docker contexts. Some experience with SWIG.

Shell/awk scripting, GNU utilities: Experience with Linux/Unix environments, creation of scripts for process automation and data wrangling, system configuration and other administrative tasks.

Javascript: Familiarity with jQuery, d3.js, three.js in the browser. Some experience using Node.js for server-side applications using e.g. Socket.io.

Other proficiencies: COMSOL Multiphysics, C++, R, MATLAB, Mathematica, Excel (including VBA), HTML/CSS, image editing.

Other

GitStub

Chrome browser extension that provides repository recommendations for GitHub users. Created over 36 hours in October 2016 for HackRice, where it won 2nd place and several sponsored prizes.
