JOSEPH BERTINO

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HIGHLIGHTS

- Versatile, quick-learning developer and researcher with 7 years of engineering experience in Python and C
- Recognized aptitude for problem solving in natural language processing, machine learning, and data analysis
- Experienced in Full Stack JavaScript (Node.js, Express, React) as well as API integration and unit testing

EXPERIENCE

R&D S&E Computer Scientist, 2018--Present
*Sandia National Laboratories***,** Albuquerque, NM

- Contributing to data analysis and capability development with national security as the core mission
- Vulnerability Research Project ("Foosball")
  - Performed vulnerability assessment of a proprietary bus protocol on embedded systems
  - Developed custom protocol decoder in C++ for COTS logic analyzer
    - Decoder monitored hardware communications over the bus, verifying implementation
    - UX functionality included server-side command lookup table for translating bus transmissions
  - Regularly presented results to external customers and team lead, guiding future direction of research
  - Documented and published source code internally for related projects
- Geospatial Analytics Project ("Tracktable")
  - Developed library of trajectory analytics and prediction functions in Python. Major objectives included:
    - Processing and filtering data at scale based on user needs
    - Predictive analytics to project motion of trajectory in both temporal directions
    - Detecting anomalous behavior, including coincidence of trajectories in both time and space
  - Implemented functionality in GUI-ized widgets for embedded web deployment to customer
  - Open-source library won public "R&D 100 Conference" award for outstanding research product in 2020
  - Nominated for internal Employee Recognition Award for outstanding research in 2020
- Natural Language Processing Project ("SAFER")
  - Developed NLP analytic to parse internally published reports about safety-related incidents
  - Analytic deployed in customer's web application to quantify trends in workforce accidents and injuries over a ten-year period across Sandia campuses
  - Configured Kibana dashboard to visualize analytics and maximize user interactivity
  - Nominated for internal Employee Recognition Award for outstanding mission deliverable in 2019
- Vulnerability Research Project ("August Rain")
  - Admitted into highly competitive internal VR course led by Sandia staff. We received comprehensive coverage and practice in C and binary analysis. Learned fundamentals like coding security practices, string and meta-character parsing, memory management, control flow, and applying context-appropriate strategies
  - Performed C++ vulnerability research on modern web browsers for 6 months
  - Recently stepped into teaching role in VR course to new batch of students. Conducts live 1-on-1 feedback sessions with students, monitoring their progress annotating publicly available codebases
  - Awarded internal Employee Recognition Award for outstanding mission deliverable in 2020

Sr. Software Developer, 2013--2016
*Comtron Corp***.,** Great Neck, NY

- Maintained and debugged C codebase for a desktop- and web-based medical records application suite
- Assumed mentorship role training employees in product development and best coding practices
- Collaborated with senior developers on the design and execution of high-priority products
- Provided training of the software suite to new clients; became dedicated liaison to largest regional client

EDUCATION

NYU, Tandon School of Engineering
M.S. in Computer Science (GPA 3.8), May 2018
Full Tuition NSF Scholarship for Service

Fordham University, Honors Program
B.S. in Mathematics & Economics (GPA 3.9), May 2011
Full Tuition Presidential Scholarship