Troy A. Baker

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Summary

Computer science professional of 2 years. I have a passion for expanding my expertise in DevOps and software design and architecture. I strive to improve the products and the teams on which I work.

Education

M.S. in Computer Science May 2017
University of Florida, GPA: 3.96
Presented at conferences and authored paper in the field of combinatorial geometry. Taught undergraduate classes.

B.S. in Nuclear Engineering May 2013
University of Florida, GPA: 3.99
Minors: Computer Science, Astronomy, Pre-med track

Work Experience

Sandia National Labs: Computer Scientist R&D June 2017 - Present
Worked as a full stack developer on a redesign of an inventory tracking web application. Primary languages were Java, Typescript, and PL/SQL. Primary frameworks were Spring Boot and Angular.

- Redesigned the legacy Oracle database schema to support complete history of inventory. Led the migration effort.
- Prototyped a new authentication scheme which branched into an independent project seeking adoption by the department.
- Frequently interacted with customers to present new solutions and refine business practices.

CSX: Intern Jan. 2013 - May 2013
Designed SQL queries to collect GPS train data from CSX servers for use in self-implemented clustering algorithms to estimate customer service times on a rail network.

Academic Projects (see tabaker.com)

DR-Planner Doctoral research, Independent (C++)
Used to quickly find realizations of rigid, 2D bar-joint graphs. Independently coded and architected.

- Implemented self-created algorithms, suitable for industry CAD software.
- Lead author on scientific paper, published in CAGD.

EASAL Doctoral research, ~10 contributors (C++)
Used to explore the assembly landscape of molecules (and other physical structures.)

- Led the restructuring and refactorization of this project; this allowed for accelerated development with undergraduate students.
- Contributed to the user guide and feature summary, to be published in TOMS.

Personal Projects (see tabaker.com)

Game Engine Independent (C++, Lua)
Features: sophisticated software architecture patterns, multi-threading, and a deep understanding of the OpenGL 4 pipeline.

LolCupid 2 contributors (Ruby, SQL, Javascript, HTML/CSS)
Features: dynamic website powered by Ruby on Rails, attractive UI, large PostgreSQL database (~90k records), daily tasks for updating database via calls to Riot Games API, and more.

Skills

Web design, software architecture, authentication and authorization, machine learning, computer graphics, theory of computing.
Languages (Strong): Java, Typescript, PL/SQL.
Languages (Moderate): C/C++, Python.