Samuel Britt

Materials Engineer – Systems Developer

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Education

2011– **M.S.**, *Georgia Institute of Technology*, Atlanta, GA.
Computer Science, Specialization in Systems Software. Current GPA: 3.5
Expected completion: May 2013.

2009–2011 **Post-Graduate Research**, *Georgia Institute of Technology*, Atlanta, GA.
Completed 2 years of a 4-year Ph.D. program in Materials Engineering. GPA: 3.9
Modeling and simulation research in mechanics of α+β titanium alloys.

2004–2009 **B.S. with Highest Honors**, *Georgia Institute of Technology*, Atlanta, GA.
Materials Science and Engineering. GPA: 4.0

Skills & Technologies

Proficient: Python (and SciPy), C, Git, Mercurial, Linux, Vim, LaTeX.
Familiar: C++, Java, MATLAB, FORTRAN, SQL, OpenMPI, Android development, GDB, Eclipse.

Experience

2012 **Teaching Assistant, Database Systems**, *Georgia Institute of Technology*, Atlanta, GA.
- Advised students in class of over 240. Graded student projects.
- Held one-on-one meetings to teach high-level concepts such as entity-relationship data modeling, as well as technical help in implementing database-driven applications using MySQL and PHP.

2012 **User-Level Threading Library, Class Project**, *Georgia Institute of Technology*, Atlanta, GA.
- Designed a user-level threading library with interface for allowing user-defined scheduling algorithms. In a group, implemented the library in C.
- Our solution was so successful it was chosen to be the project basis for future offerings of the course.

2009–2011 **Post-Graduate Research**, *Georgia Institute of Technology*, Atlanta, GA.
Studied the mechanical response and texture evolution of α+β titanium alloys via multiscale modeling and simulation.
- Developed new, thermally activated constitutive model based on unique properties of the titanium microstructure.
- Implemented material model in FORTRAN to enhance finite element simulation software.
- Built microstructure generation code and post-processing routines using C++, MATLAB, and Python.
- Presented results regularly at the meetings of the Center for Computational Materials Design.
- Administered the Red Hat Linux computer clusters used by all students in the research group.

2005–2009 **Engineering Intern**, *Southern Research Institute*, Birmingham, AL.
Five terms as an engineering co-op, performing high-temperature materials research for the aerospace industry.
- Designed a facility capable of thermogravimety and dilatometry of carbon-phenolics up to 650 °C under pressures up to 4.15 MPa.
- Investigated the kinetics of phenolic resin pyrolysis using isothermal and nonisothermal thermogravimetry at temperatures up to 1100 °C. Co-authored a report that was presented at the 56th JANNAF Propulsion Meeting.
- Coordinated effort to develop, build, and test a facility capable of tensile permeability tests up to 1900 °C.

Advanced Coursework

Computer Science: Adv. Operating Systems, Real Time & Embedded Systems, Computability and Algorithms, HPC Architecture, Applied Cryptography. Upcoming: Internet Computing, Aerospace Real Time Control Software.

Modeling & Simulation: Statistics & Numerical Methods, Parallel Scientific Computing, Adv. Constitutive Relations of Solids, Continuum Mechanics, Quantitative Characterization of Materials.

Materials Engineering: Mechanical Behavior of Composites, Thermodynamics of Materials, Kinetics of Phase Transformations, Studies in structure-property relationships of alloys, ceramics, polymers, semiconductors, and composites.

Scholarships & Awards

Henry Ford Award, for the most outstanding academic record in the junior engineering class.

President's Scholarship, Tech's premier merit-based scholarship awarded to approximately 2 % of students.

National Merit Scholarship, awarded to the top 0.6 % of the 1.4 million or so high school applicants.