Samuel Britt

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From materials engineering to software development through a passion for technology.

EDUCATION

2011–   **M.S.**, *Georgia Institute of Technology*, Atlanta, GA   Current GPA: 3.7.
Computer Science, Specialization in Systems Software.
Expected completion: May 2013.

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

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

SKILLS & TECHNOLOGIES

Proficient: C, Python (and SciPy), Git, Mercurial, UNIX, Linux, Vim, LaTeX.

Familiar: C++, Java, MATLAB, FORTRAN, SQL, GDB, OpenMPI, Eclipse, Android development.

EXPERIENCE

2012   **User-Level Threading Library, Class Project**, *Georgia Institute of Technology*, Atlanta, GA.
- Developed a C threading library that allowed user-defined thread scheduling. The professor selected the library to be used in future course offerings.

2012   **Xen Asynchronous Split-Driver Simulator, Class Project**, *Georgia Institute of Technology*, Atlanta, GA.
- In a group, developed a multithreaded, multiprocess Linux application in C to simulate shared memory ring buffers used for asynchronous IO in Xen. Required use of semaphores, mutexes, and condition variables.

2012–2013   **Teaching Assistant, Database Systems**, *Georgia Institute of Technology*, Atlanta, GA.
- Held one-on-one meetings in class of over 240 students 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.

2009–2011   **Post-Graduate Research, Materials Simulation**, *Georgia Institute of Technology*, Atlanta, GA.
Studied the mechanical response and texture evolution of $\alpha+\beta$ titanium alloys via multiscale modeling and simulation.
- Developed new, thermally activated constitutive model based on unique properties of the titanium microstructure.
- Implemented crystal plasticity 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 Co-op, Composites Research**, *Southern Research Institute*, Birmingham, AL.
Five terms as an engineering co-op, performing high-temperature materials research for the aerospace industry.
- Investigated the kinetics of phenolic resin pyrolysis using isothermal and nonisothermal thermogravimetry at temperatures up to 1100 °C. Co-authored a report presented at the 56th JANNAF Propulsion Meeting.
- Designed facility for thermogravimety and dilatometry at temperatures up to 650 °C and pressures up to 4.15 MPa.
- 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, Internet Computing, Software Engineering: Analysis & Testing.

Modeling & Simulation   Statistics & Numerical Methods, Parallel & Vector 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.