Samuel Britt

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

Education

2011–current **M.S.**, *Computer Science with Specialization in Systems Software* — Current GPA: 3.7.
Georgia Institute of Technology, Atlanta GA
Expected completion: May 3, 2013.

2009–2011 **Graduate Research Assistant**, *Materials Science & Engineering, Mechanics of Materials* — GPA: 3.9.
Georgia Institute of Technology, Atlanta GA
Modeling and simulation research in the mechanics of α+β titanium alloys.

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

Skills & Technologies

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

Familiar: C++, Java, Matlab, Fortran, SQL, GDB, OpenMPI, Bash, 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 **Graduate Research Assistant, Materials Simulation**, *Georgia Institute of Technology*, Atlanta, GA.
Studied the mechanical response and texture evolution of α+β titanium alloys via multiscale modeling and simulation.
- Contributed new, thermally activated constitutive model based on unique properties of the titanium microstructure.
- Implemented crystal plasticity material model, microstructure generation code, and post-processing routines using Fortran, C++, Matlab, and Python.
- Presented results regularly at the meetings of the Center for Computational Materials Design via talks and posters.
- Administered the Red Hat cluster used by the research group, developing Bash scripts to automate many tasks.

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.