

# 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  $\alpha+\beta$  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  $\alpha+\beta$  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 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 thermogravimetry 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 56<sup>th</sup> JANNAF Propulsion Meeting.
  - Coordinated effort to develop, build, and test a facility capable of tensile permeability tests up to 1900 °C.

## ADVANCED COURSEWORK

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|-----------------------|---|
| 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.