

Nathan Burnside

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OBJECTIVE

- Obtain employment in design of electro-mechanical systems

SUMMARY

- Extensive practical experience at Los Alamos National Laboratory
- Master of Science candidate in Mechanical Engineering
- Working knowledge of mechanical, thermal, and electrical systems

EDUCATION

- B.S. Mechanical Engineering, December 2000 GPA 3.60/4.00
Brigham Young University, Provo, UT 84606
- M.S. Mechanical Engineering, August 2001 (anticipated)
Brigham Young University, Provo, UT 84606

KEY COURSES

Combustion	Advanced Heat Transfer	Capstone Senior Design
Control Systems	Transport Phenomena	Advanced Fluid Mechanics
Instrumentation	Thermodynamics	Finite Element Programming
Quality Control	Circuit Analysis	Numerical Heat Transfer
System Dynamics	Numerical methods	Gas Dynamics

SKILLS

Fluent in Spanish	Pro Engineer	Digital imaging systems
GPIB/RS232	C/FORTRAN	Microcontroller Programming
UNIX/LINUX	Data Acquisition Systems	Stepper Motor Control

EXPERIENCE

Researcher (5/96-12/99) Los Alamos National Laboratory, NM

- Designed and implemented a series of experiments studying DDT (Deflagration to Detonation Transition) in granular beds of high explosives.
- Extensively analyzed particle size and surface area of granular explosives using light scattering and gas absorption techniques
- Assembled data acquisition system including design of software interface between multiple oscilloscopes and PC-based controller
- Programmed data reduction routines using fast Fourier transform methods

Student Design Team (9/98-4/99) Valtek Inc, Provo, UT

- Helped redesign flow control flapper-valve unit
- Analyzed dynamic properties of current flapper-valve design

Research Assistant (01/98-01/99) Jerry Bowman, PhD., Provo, UT

- Wrote transient 1-D finite-difference code to validate heat transfer model
- Presented results at AIAA conference in Reno, NV

Maintenance technician (5/95-8/95) AAA Car Wash, Helena, MT

- Performed general maintenance on high pressure pumps, hoses, solenoid valves, furnace, and electrical systems
- Handled book keeping and customer relations

CONFERENCE PROCEEDINGS

- Modeling a Flat Plate Painted with Phase Change Material
AIAA, Aerospace Sciences Meeting, 37th, Reno, NV, Jan. 11-14, 1999
- Particle Characterization of Pressed Granular HMX
1997 American Physical Society Conference, Boston, MS
- Thick Walled DDT Tube Experiments
1996 JANNAP Propulsion Systems Hazards Subcommittee Meeting