

Joe Smith

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Academic Background

Graduate Studies: Appalachian State University; Boone, NC
Master of Industrial Technology, Appropriate Technology, May 2008
Epsilon Pi Tau academic honor society, inducted Jan 2007
Undergraduate: University of Notre Dame; Notre Dame, IN
Bachelor of Science in Aerospace Engineering, May 2001
Amirco Darrin Scholarship, first recipient, Sept 2000

Professional Licenses & Certifications

Passed Fundamentals of Engineering exam, 2nd of 4 steps to becoming a Professional Engineer

Technical and Specialized Skills

Wind software: WindPRO, Windographer, Homer, RETScreen, NRG Symphonie, ArcGIS
General software: Microsoft Office, including Excel, Access, Visio, Project
Other software: MatLab, Fortran, Fchart, Final Cut Pro, Dreamweaver
Anemometer tower installation & decommission
Instrumentation setup & troubleshooting
Tower climbing with proper safety gear

Related Work Experience

Appalachian Institute for Renewable Energy, Spring 2008

- Community education through workshop presentations
- Educational and promotional material creation using GIS animations and WindPRO photo simulations
- Suitability analysis of Western North Carolina for community wind site; combining resource, infrastructure, and legal constraints
- Wind turbine specification: analyze size, make, model for installations costs, maintenance costs, and energy output
- Write grant applications to further project funding

Alaska Energy Authority, Summer 2007

- Site suitability analysis for all Alaskan villages for wind turbine installation
- Data logger analysis
- Anemometer decommission, transportation, and reinstallation

Appalachian State University Renewable Energy Initiative (ASU-REI), 2007–2008, volunteer

- Identify wind resource on campus and give guidance on turbine sizing and project development
- Use ArcGIS for view shed analysis and fly-around animation
- Design and manage \$65,000 photovoltaic installation

Western North Carolina Renewable Energy Initiative, Fall 2006–Fall 2007

- Wind resource consultations for landowners and companies
- Host dozens of renewable energy workshops
- Community education, outreach, & advocacy regarding renewable energy technology
- Helped prepare state energy plan

Other Work Experience

Alaska Aerospace Development Corporation, Jan 2005–July 2006

- Site manager for remote telemetry station (30 personnel at launch time)

- Command Destruct Operator for Range Safety and Telemetry System (RSTS)
- Test and troubleshoot 1kW UHF transmitters used to destroy rockets which go off-course
- Successfully participated in 3 suborbital launches & 1 month of certification testing
- Organizational skills applied to logistics, documentation, configuration control, purchase orders, inventory management (\$1.5Million of critical spares for RSTS)
- Performed Radio Frequency Interference and safety surveys

Rise Alaska, May 2004–Jan 2005

- Meteorological team member during launch from Kodiak Launch Complex
- Assisted VP of Launch Operations with: presentations, documents, & procedures

Research Assistant, Summer 2001

- Analyze wing-tip vortices, and prepped presentation on dangers to aircraft

Deluxe Sheet Metal Co, Summer 2000

- Supply chain management & lean engineering principles
- Hands-on fabrication

Casteel Construction Corp., Summer 1997 & 1998

- Became the leader of other college-aged laborers
- Participate in construction projects worth more than \$100Million

Consulting

Englewood Energy, C. Keith Parham, 252-414-0000

Research Activities

Green House Gas inventory for Appalachian State University, 2008 (in progress)

Solar Resources for North Carolina State Energy Plan, maps & calculations, Fall 2007

Suitability Analysis for Wind Turbine Locations in Alaska, Sept 2007

Real world comparison of solar thermal panels, Spring 2007

Professional Development

Community Wind workshop, NC Solar Center, Oct 2007

Southwest Windpower installation workshop, Southwest Windpower, Oct 2007

Greening of Campus VII, Ball State University, Sept 2007

Utility Wind Integration Group (UWIG) workshop, UWIG, July 2007

Residential Renewable Energy Workshop, Your Clean Energy, June 2007

Southern Energy & Environment Expo, Aug 2006 & Aug 2007

WindPower 2006, June 2006

Radio Frequency safety training, June 2004

Alaska Rural Energy Conference, April 2004

Leadership & Membership

Graduate Student Representative for Academic Policies & Procedures committee, Spring 2008

Secretary, Appalachian State University Renewable Energy Initiative (ASU-REI), Spring 2008

Chair, ASU-REI, Fall 2007

Vice Chair, ASU-REI, Spring 2007

Treasurer, Graduate Student Senate Association, May 2007–May 2008

Secretary, Epsilon Pi Tau academic honor society, Spring 2007

Fundraiser, Appalachian State University Solar Energy Society (ASUSES), 2006–2008

Boone Sustainable Transportation Club, 2007–2008

Appalachian Regional Initiative for Sustainable Energy (ARISE), 2008

Southern Alliance for Clean Energy, 2006–2008

Institute of Electrical and Electronics Engineers, 2007–2008

WFAE public radio, 2006–2008

President, Notre Dame Chapter of American Institute of Aeronautics & Astronautics, 2000–2001

President, Progressive Student Alliance, 2000–2001

Pipe Major & President, Notre Dame Bagpipe Band, 1999–2001

Chief Welder, Notre Dame Society of Automotive Engineers, 1999–2001
Chief Welder, Irish Racing Team, 1999–2001
Senior Petrol Leader, Boy Scout of America 1993–1997; (Boy Scout, 1991–1997)

Academic Interests

Applicability of computer modeled wind resources in complex terrain
Wind Shear calculations & comparisons in complex terrain
Energy after fossil fuels

Grants

Helped secure Mental Insight Foundation grant to start Appalachian Institute for Renewable Energy, Fall 2007
Found grants which were awarded to the Appalachian State University-Renewable Energy Initiative, Spring 2008

Foreign Language Abilities

Swahili, tested fluent in 2003
German, tested functional in 1997

Volunteer Work

Bagpiper, May 2004, 2005, 2006, & 2007

- Kodiak Fishermen's memorial service during Crab Fest

Habitat for Humanity, Summer 2005, Spring 2007

- Worked on Kodiak semiannual home build
- Fundraiser and spring break 2007 build in Muncie, IN

Special Olympics, March 2005 & February 2007

- Swimming official, 2005
- Fundraiser, 2007

Bagpipe Instructor, Nov 2005–June 2006

- Provide free lessons to members of Cordova, AK community

KMXT public radio, 2004–2005

- Organized music
- Played on air

US Peace Corps Volunteer, Oct 2001–Dec 2003

- Served in rural Tanzania for 2 years
- Provided academic leadership to students and staff in a physically, socially, and emotionally challenging environment, with limited resources
- Integrated into village life and helped community deal with AIDS and other crises
- Designed fuel efficient stoves and initiated a program for village residents to build and sell the stoves as a self-sustaining business

O'Neil [residence] Hall Carpenter, Oct 1999–May 2001

- Build floats for dormitory Mardi Gras parade
- Designed and built winning boat for campus-wide regatta

Other Honors, Awards, & Accomplishments

P3 design proposal winner, Environmental Protection Agency, April 2007

Completed Ironman Florida in 11hr, Nov 2006

Private pilot license, Aug 2006

Ham radio license, 2005

Climbed Mt. Kilimanjaro, June 2003

Hall Spirit Award, O'Neill [residence] Hall, Notre Dame, 2001

Advanced open water SCUBA certified, 1999

Eagle Scout, Boy Scouts of America, 1997