Kevin Dinkel

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Summary

I am a well-rounded engineer looking to apply my passion for software engineering to GNC, attitude dynamics, or flight software problems.

Education

Exp. May 2014 — **Master of Aerospace Engineering**
The University of Colorado at Boulder
Focus: Astrodynamics and Satellite Navigation Systems

May 2012 — **Bachelor of Aerospace Engineering Minor in Computer Science**
The University of Colorado at Boulder
Engineering Honors Program, Deans List, Tony Tisone Memorial Engineering Scholarship

Computer Skills

Languages	C/C++, MATLAB, JAVA, Python, Jython, Bash, Csh, Visual Basic, Fortran, LaTeX, JavaScript, HTML, SQL, XML, XSLT, WSDL, SOAP, REST
Op. Systems	Linux, Unix, Sun OS, Mac OS X, Windows
Devel. Tools	Git, Make, SVN, Synergy, Eclipse, IntelliJ
Web Tools	Apache, WebLogic, Web Services, Cesium
Modeling	STK, AutoCad, Thermal Desktop, SINDA, Mathematica, Excel

Leadership and Communication

Management

- Experience leading multiple teams ranging in size from 2 to 14 engineers
- Developed requirements and wrote proposals for 3 engineering programs
- Prepared and presented design reviews/documents for 6 engineering programs

Conferences

- Presentations at AIAA Region V Student Conference 2012 (x2) & 2010, COSGC Research Symposium 2009, ITLL Design Expo 2008
- Poster for the CU Aerospace Projects Symposium 2012

Academic

- Graduate level technical communications class
- Presented technical information on over 20 different aerospace/computer science topics

Security Clearance

2010 - Present	Top Secret/SCI Clearance Completion of Single Scope Background Investigation (SSBI)
Aug 2012	CI Polygraph

Professional Experience

08/2012 - Present, Boulder, CO

Laboratory for Atmospheric and Space Physics (LASP)

Planning and Scheduling Research Assistant

- Developed planning and scheduling software for LASP missions, including Kepler and MAVEN
- Planned science/maneuver activities and generated command loads for the SOURCE spacecraft bi-weekly
- Implemented a "clever scheduling" scheme for the MMS 4-spacecraft cluster, using Parsing Expression Grammars and combinator functions to schedule complex sequences from a simple set of rules

08/2011 - Present, Boulder, CO

Southwest Research Institute (SwRI)

DayStar CDH Lead Engineer

- **1st Place Winner** of the 2012 AIAA Student Conference Region V
- **Winner** of Senior Design Best Data Gathering and Analysis Method Award
- **Septemper 2012 launch** of the first balloon-borne star tracker capable of tracking during the daytime
- Developed star identifications and attitude determination algorithms capable of providing 0.1 arcsecond attitude accuracy from a high altitude balloon in the stratosphere at 10 Hz
- Designed and implemented a flight system consisting of 7 concurrent, multi-threaded C++ processes onboard a Linux platform

05/2012 - 08/2012, Littleton, CO

Lockheed Martin Space Systems Co.

MSP Ground Element Intern

- **2nd Place Winner** of of the 2012 Intern Final Presentation of 49 interns
- Constructed prototype web services for future MSP ground operations, including a sensor pattern visualization tool using STK components, AGI Cesium, HTML, JavaScript, and Java
- Developed real-time visualization of spacecraft and environmental parameters for the Space Vehicle Simulator (SVS) using MATLAB

08/2009 - 05/2012, Boulder, CO

Colorado Space Grant Consortium

DANDE Flight Software Lead Engineer

- **1st Place Winner** of the 2009 Air Force NanoSat Competition
- **Projected launch February 2013** to study atmospheric drag as a function of solar events
- Led a team of 4 software engineers to design and implement a 15 process, highly configurable, multi-threaded flight software system for DANDE's custom embedded Linux platform, controlling a bus with 5 participating microprocessors

06/2011 - 08/2011, Sunnyvale, CA

Lockheed Martin Space Systems Co.

Special Programs Thermal Systems Intern

- Discovered and remedied an error in the P-321 thermal model, mitigating potential schedule and cost impacts
- Predicted testing time lines for spacecraft payloads by constructing a lumped capacitance thermal model and using Thermal Desktop/SINDA
- Augmented TVAC tracking tools using VBA macros

05/2010 - 08/2010, Aurora, CO

BIT Systems Co. (BITS)

Classified Software Co-op

- Developed attitude determination, maneuver detection, and orbit propagation algorithms for a classified software suite in JAVA
- Improved software to decode satellite telemetry and display important information in an interactive GUI for intelligence analysts

09/2008 - 07/2010, Boulder, CO

Colorado Space Grant Consortium

HASP Project Manager

- **September 2008 launch** of the BOWSER high altitude balloon payload
- Led a team of 14 engineers in designing, testing, and flying BOWSER
- Defined project requirements, interviewed/hired/managed team, organized weekly meetings, planned budget and schedule, and interfaced with the customer
- Designed and implemented flight software capable of simultaneously capturing video and images from two cameras, collecting data from over 60 sensors, and communicating with a ground station

06/2009 - 09/2009, Boulder, CO

CU ITS Frontline Service Center

Computer Support Analyst

- Triaged server, networking, telecommunication, and software issues for the CU faculty, staff, and students

06/2009 - 09/2009, Boulder, CO

Gateway to Space (Projects Class)

SCREAM Mission Specialist

- **1st Place Winner** of the Fall 2008 ITLL Design Expo
- **Project launched December 2008** on a high altitude weather balloon to the edge of space, measuring how sound amplitude decays with altitude
- Developed the science mission and payload design for the SCREAM payload, and presented results from the test flight to a class of 60 students

Publications

1. **K. Dinkel**, A. Zizzi, "Fast Median Finding on Digital Images." *AIAA Regional Student Paper Conference.* April 4, 2012
2. N.Truesdale, M. Skeen, J. Diller, **K. Dinkel**, Z. Dischner, A. Holt, T. Murphy, S. Schuette, A. Zizzi. "DayStar: Modeling the Daytime Performance of a Star Tracker for High Altitude Balloons." *AIAA Region V Regional Student Paper Conference.* April 4, 2012 **(1st Place)**
3. **K. Dinkel**, V. Klein, S. Schuette, N. Truesdale, A. Zizzi. "A Model of Sky Brightness in the Stratosphere." *AIAA Region V Regional Student Paper Conference.* February 12, 2010
4. **K. Dinkel**, A. Zizzi, T. Boe. "Feasibility of a Balloon-Stationed Optical System, BOWSER.", *COSGC Rsearch Symposium.* March 30, 2009