

NICHOLAS BROPHY

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EDUCATION

Major GPA: 3.5

GEORGIA INSTITUTE OF TECHNOLOGY: Aerospace Engineering Honors Program Graduation May 2022

- Curriculum: Computing, Statics, Aerospace Engineering, Multivariable Calculus, Abstract Vector Spaces
- Extracurriculars: Yellow Jacket Space Program, Ramblin' Rocket Club, Spaceport America Cup: Team Lead Students for the Exploration and Development of Space

BENTONVILLE HIGH SCHOOL: Engineering Focus Area

GPA: 4.0 unweighted

- National Merit Finalist Award AP Scholar with Distinction Award & AP + PLTW Student Achievement
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EXPERIENCE

YELLOW JACKET SPACE PROGRAM:(2018-19) Liquid Propulsion for Karman-1 predicted altitude of 120km

- Implemented **Data Acquisition** unit for temperature and pressure in preparation for hot-fire testing
- Utilized CAD for Lox/Jet A engine deliverable components and wrote team wide **testing procedures**

ARMY CORPS OF ENGINEERS:(2015-16) **Project Manager** in island development to reduce erosion

- 385 man-hours and over 60 personal volunteer hours presenting and executing trail construction
- Created improved campsites and infrastructure including five handcrafted signs

RAMBLIN' ROCKET CLUB:(2018-19) **Executive Designer** Avionics Bay, Spaceport America Cup Team (SAC)

- SAC Design Competition: 30,000ft solid category: research of active drag and corequisite simulation
- Team Lead, Structures: **CAD Executive** for original Avionics Bay and Parachute mounting design.

BROPHY ROCKET PROGRAM:(2018-19) Three years developing homemade Mid-Power model rockets

- Constructed homemade electric launch system capable of launching three engines simultaneously
- **Safety and Launch Leader:** instructed peers for 15+ hrs. on design and developed launch locations

MATHEMATICS/ACT TUTOR:(2017-18) Drafted personalized curriculum for students grades 8-10

- Increased student ACT scores by up to 7 points and helped first time test takers achieve 30+ on Exam

BENTONVILLE PUBLIC LIBRARY:(2014-17) **Teen leadership:** Facilitated registration of over 100 students

- Led annual Pre-Kindergarten lessons for about 50 children
 - Repaired audio and visual components and organized weekday shelving for thousands of books
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LEADERSHIP

BOY SCOUTS OF AMERICA:(2010-18) Senior Patrol Leader, Eagle Scout

- Principal **youth lead** for six months over a troop of 80+ young men
- Organized weekly meetings, event agenda, and presented at troop board meeting
- Five years of training in extreme environment survival at BSA High Adventure camps

CROSS-COUNTRY/ INDOOR TRACK/ OUTDOOR TRACK:(2012-18) Varsity Senior Captain

- **Coached youth** to Triple Crown Championship victory: most successful team in a decade
 - Introduced filing system for organization of youth records in Athletic Office
 - **Taught** at youth camp for 50+ pre-teens for three years to raise money for athletics
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SKILLS

- Computer Programs: MATLAB, Inventor, SolidWorks, Excel, Rock Sim, Open Rocket
 - Non-Technical: Public Speaking, Group Management, PowerPoint, Microsoft Office
 - Interests: Writing Short Prose, Space History, Astrophysics, Kerbal Space Program
 - Activities: High Endurance Backpacking, Long Distance Running, Snorkeling/Diving, Canoeing
 - Music: Trumpet Symphonic Band, Religious Choir
 - Volunteerism: Life Teen Youth Religious Learning, Boy Scouts of America, National Honor Society
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HONORS & AWARDS

- Keynote Speaker Speech: AP Parent Conference
- National Honor Society, STAR Service Award
- Arkansas Hall of Fame: All Arkansas Academic Track & Field Team