

MADISON N. ALLEN, EIT

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Education **B.S. in Nuclear Engineering**, December 2023
University of Tennessee - Knoxville
Concentration - **Radiological Engineering**
Double Minor - **Applied Music** (Jazz & Classical Saxophone) & **Physics**
“Summa Cum Laude”, 3.88 GPA

Experience

- licensed as EIT (Engineer-in-Training); completed and passed the F.E.(Fundamentals of Engineering) exam administered by the National Council of Examiners for Engineering and Surveying, NCEES (2022-present).
- Intern and Engineering Assistant at T. E. Allen Engineering, P.C. under instruction from Professional Engineer and President of the firm, Terry Allen, P.E. Created AutoCAD drawings, drafting, design, measurements, field work, calculations, conducting inspections and more (Summer 2021-present).
- Lead MCNP & Python coder and Administrative lead of UT engineering senior design team working on radiological engineering project sponsored by leading DOE contractor, UCOR (United Cleanup Oak Ridge, LLC). Worked to develop a structure and strategy to fully shield the Germanium Gamma-ray Imager (GeGI) utilized by UCOR for nuclear security and nuclear contamination cleanup applications. I write and utilize Monte Carlo N-Particle ® code, or MCNP, for various shield thickness testing optimizations (August 2022 - May 2023).
- Member of UT Student Disability Services Student Advisory Board. SDS periodically changes processes, policies, and services. The SDS Student Advisory Board reviews proposed modifications to policies and processes while providing insight and suggestions for improvement. Meets twice per semester (2021 - 2023).
- UT Undergraduate Research Assistant for the Nuclear Engineering Department working on the Southern Nuclear Company project in 2019 to analyze data from virtual sensors for nuclear power applications.
- UT Student Disability Services Peer Mentor. Meeting once a week with a peer mentee with a registered disability and attending one campus event per semester with peer mentee (2019 - present).
- Member of the UT Jazz and Classical Saxophone Studio, UT Jazz Combo, and UT Saxophone Ensemble as a music minor (2018-present).

- Keynote speaker and featured performer at the annual 2022 UT Student Disability Services Recognition Dinner and Induction Ceremony. Invited to speak and play my saxophone by the Director of UT Student Disability Services, David Ndiaye (March 3, 2022).
- Opening Guest Speaker to Haben Girma, disability rights lawyer and the first Deafblind person to graduate from Harvard Law School. Introductory speech for her during the UT Student Disability Services ADA ceremony event, “Disability & Innovation with Haben Girma” (Mar. 23, 2021).
- First ever student speaker at the Annual UT Parents and Families Association Leadership Dinner as the recipient of the 2021 Parents and Families Association scholarship. Introduced by Dr. Frank Cuevas, UT Vice Chancellor for Student Life (September 17, 2021).
- Student speaker at the UT Division of Advancement November meeting. Invited to speak at this meeting by the Talent and Diversity Manager in the UT Division of Advancement (November 2021).
- Amateur/Ham Radio General Class & Technical Class Operator (2020-present)
- Rosman Pentecostal Lighthouse Church volunteer/member. Children’s Church Teacher, choir member, lead saxophonist and drummer, organized act in Trunk or Treat. Volunteered with Rosman Pentecostal Lighthouse community service activities such as Trunk or Treat, Run 10 Feed 10 organization, Vacation Bible School, Widow Ministry, feeding the Rosman Youth Football Team and helped set up for homecoming, Thanksgiving and Christmas dinner fellowships (2011-present).
- Established and founded the Ronald McDonald Tab House at Rosman Elementary School, Rosman, NC. The collection of tabs from aluminum cans for an ongoing fundraiser to help support families with children undergoing cancer or childhood medical treatment. (2005-present).
- Camp counselor for the 5 to 6 year old boys at Camp Merry Times, a summer camp for children and their siblings undergoing cancer treatment in western NC hosted by Friends of Santa Claus (May 2019).
- Performed and played saxophone solos at various services at camp as the 2019 scholarship recipient of the “Ted Van Thullenar” Friends of Santa Claus Scholarship. Services included “A Celebration of Lives” where all counselors remember the Camp Merry Time children who have passed away and the Sunday Morning Service for counselors, staff and campers (May 2019).
- Participated, helped set up and clean up at 2019 UT WomEngineers Day. A one-day engineering networking and informational event aimed to promote women in engineering (Apr. 13, 2019).
- Traveled and voluntarily performed with the UT Saxophone Ensemble at the 2019 Region 7 North American Saxophone Alliance (NASA) Conference hosted at Western Carolina University in Cullowhee, NC (Mar. 8-10, 2019).
- Participated in UT Catalyst 2019 by recommendation from the UT Student Disability Services director. Catalyst 2019 is a one day workshop for UT students wanting to start

something extraordinary and work on developing their leadership skills as well as recognizing the skills of others (Mar. 30, 2019).

- Worked the UT WomEngineers Day booth in order to help advertise 2019 UT WomEngineers Day. Helped give out information, registration and hand out T-shirts to those interested or who signed up for WomEngineers Day (Feb. 26 & Apr. 2, 2019).
- Volunteered at the 2019 UT Single Reed Day, a one-day intensive music workshop for talented high school saxophonists and clarinetists. Set up music stands, chairs, music, etc. and helped the students in learning their music parts during rehearsals for the concert (Feb. 2019).
- Performed with the UT Saxophone Ensemble at the O'Connor Senior Citizen Center in support of their fundraiser (Dec. 2018).
- Performed in "Jazz for Tots" concert put on by the UT Jazz Department in support of the Toys for Tots campaign (2018 & 2021).
- Performed and premiered the music of local composer, Bob Sargent in Jazz Premiere Night playing alongside Prof. Jamie Warren (Brevard College Jazz Professor) at The Phoenix Restaurant in Brevard, NC (2018).
- Attended and assisted in guiding and directing blind students at the 2018 Eye Retreat held at the NC Governor Morehead School for the Blind (July 2018).
- Attended the 2018 Annual American Council of the Blind Convention held in St. Louis, MO as a national CCLVI scholarship recipient for incoming freshmen (Summer 2018).
- Saxophone Tutoring (10 hours), at Brevard Middle School for Jazz Band (Fall 2017).
- Assisted the blind and visually-impaired with everyday activities at the North Carolina School of Science and Math STEM camp for VIB (visually-impaired and blindness) students (June 25- June 30, 2017).
- Visited and worked with SAS, a software suite located in Durham, NC for advanced analytics, multivariate analysis, business intelligence, data management and predictive analytics. Assisted SAS in helping brainstorm new ideas for new statistical accessibility software for people with low vision interested in math and science (June 28th, 2017).
- Attended STEM camp for visually-impaired and blind students at the NC School of Science and Math in Durham, NC (June 2017).
- Performed a saxophone recital in the auditorium for the residents at College Walk of Brevard, NC, a retirement home. Recital included Christmas classics and the "Concertino Da Camera" (Nov. 28th, 2017).
- Performed at DollyWood Harvest Festival Presented by Humana with professional musician, country singer, and blind pianist Gordon Mote on stage at DollyWood, Pigeon Forge, TN. Also worked the fan table selling t-shirts, cd's, and miscellaneous items for Mr. Gordon Mote (2016).
- Performed with Turning Point Ministries with Dr. David Jeremiah onboard the Holland America Cruise Ship. Performed a duet of "Amazing Grace" with professional and famous saxophonist, Uriel Vega. (Summer 2016).

- Engineering Independent Service Project for National Honor Society. Assisted design engineers in the preparing of Feasibility Assessment and design documents for Improvements to Transylvania County Champion Park Pool located in Rosman, North Carolina. This work was to satisfy the USDA requirements for Rural Development financed facilities. The TC Champion Park is a community park and swimming pool facility that serves the rural western portion of Transylvania County by providing meals through the U.S. Department of Agriculture's Summer Food Service Program. The engineering services for the Champion Park improvements were vital for the park and pool to remain open to the public while also contributing to the increasing need for free lunch during the summer break (Summer 2016).

Activities

- UT Alpha Nu Sigma Honors Society for Nuclear Engineering upperclassmen and graduate students in top of Nuclear Engineering class (2022 - present)
- UT Delta Alpha Pi International Honors Society for Student with Disabilities member (2020 - present)
- Vice Chair Tangibles Coordinator on the UT WomEngineers Executive Leadership Council (2019)
- UT American Nuclear Society Chapter member (2020-present)
- American Nuclear Society national student member (2017-present)
- UT Engineers in Medicine Society (2020-present)
- UT Health Physics Society (2020 - present)
- UT Amateur Radio Club member (2020-present)
- Member of the UT Jazz and Classical Saxophone Studio, UT Jazz Combo, and UT Saxophone Ensemble as a music minor (2018-present)
- Member of Council of Citizens with Low Vision International (CCLVI) executive council/convention committee. Helps with planning for the annual American Council of the Blind Convention held at Rochester, NY (July 2018 – 2019).
- Member of American Council of the Blind (2018 – 2020)
- High School “Summa Cum Laude” & Junior Marshall / top 10% of high school class (2016-2018)
- High School Band Section Leader and 1st Chair lead Alto and Soprano Saxophone in Brevard/Rosman High School Marching Band, Brevard/Rosman High School Jazz Band, Brevard High School Wind Ensemble and Saxophone Quartet (2014 – 2018).
- National Honor Society (2016-2018) and serving on the National Honor Society executive council as the historian (2017-2018).
- Brevard College saxophone lessons (6 years)
- Lead cancer walk fundraiser on board Holland America Cruise Line. Joined the Holland America Line Foundation in the fight against cancer by leading “On Deck for a Cause”, a 5k

fundraising walk held while sailing. Before the event started, I was invited to share my story as a cancer survivor, advocating knowledge of the symptoms of the rarest form of childhood cancer known as Bilateral Retinoblastoma (eye cancer) aboard the Holland America Line. As a cancer survivor I proudly led the walk to fulfill my passion of support and gratitude for the ongoing research, education, screening, and cancer treatment programs for this worthy cause (Summer 2016).

- American Cancer Society "Leader" of "Relay for Life" for Transylvania County. At the age of 2 years old, I began my journey as a Relay for Life cancer survivor. Fortunately, I have led the survivors each year. I was diagnosed at 8 months old with the rarest form of childhood cancer, Bilateral Retinoblastoma. I have been enjoying making a difference in the American Cancer Society's event fundraising for many years. The event helps to provide funding for cancer research, and patient care programs. (2001-2015).
- Funerals- Saxophone Soloist in the local community.

Awards/Certifications

- EIT licensed; completed and passed the F.E.(Fundamentals of Engineering) exam (2022-present)
- Licensed as Amateur/Ham Radio General Class & Technical Class Operator (2020-present)
- received the “ UT Commission for Disability Award” and honored at the UT Chancellor’s Honors Banquet by nomination from Director of UT Student Disability Services, David Ndiaye. Presented the award by University Chancellor, Donde Plowman (2022).
- UT Student Engagement Award Nominee - “Most Committed to Encouraging the Heart” Award at the 2022 UT Student Engagement Banquet & Awards Ceremony (2022).
- UT Dean’s List as “Summa Cum Laude” (2018-present)
- Tau Beta Phi National Honors Society eligible (2021-present)
- A Honor Roll (Entire High School Years)
- Recipient of the “John Philip Sousa Award” awarded by Brevard High School Band Director, Mr. Jim Leatherwood (2018). “Introduced in 1955 to honor the top student in the high school band, the John Philip Sousa Band Award recognizes superior musicianship and outstanding dedication.”
- All State Band Contender (jazz & classical) in high school. Ranked 7th in North Carolina for high school Alto Saxophone (2015-2018).
- Western NC All District Band. Auditioned and earned membership every year. (Alto Saxophone 2013 – 2018) (1st Chair in 2014, 2016 & 2018)
- Western NC Regional Jazz Honors Band (Alto Saxophone). Brevard High School’s first student member to make the Western NC All Regional Jazz Band (2017 & 2018).
- WISE certified “Financially Literate” (Dec. 2017)

- Earned a high position at the UNCW Summer Jazz Workshop Clinic placing in the top band out of 67 students. (July 2017)
- Earned the “Talent Deserving Recognition – Saxophone Award” awarded by Dr. Frank Bongiorno (director of Jazz Studies and Saxophone at UNCW) at the 2017 UNCW Summer Jazz Workshop.
- Earned the “Most Helpful to Other Campers Award” at the STEM camp at NCSSM (NC School of Science and Math) (June 2017).
- Talent Winner and contestant of Rosman High School's annual yearbook fundraiser and scholarship pageant, "Miss Bengal". I was awarded "Most Talented" in the talent competition from my saxophone performance (2015).
- Earned the “Academic Excellence in Mathematics Award” at Rosman High School (2014-2015)
- Transylvania County Scholar
- North Carolina Scholar

Skills

- Python coding
- Matlab coding
- Fortran coding
- Monte Carlo N-Particle ® (MCNP) code simulations
- AutoCAD
- Microsoft Office (Excel, Word, PowerPoint)

References

Available upon request.