

# DRAFT

## Chase T. Miner

730 E 950 S, APT A508, OREM, UT 84097  
650.575.2951

CHASETMINER@GMAIL.COM

## EDUCATION

**Brigham Young University**, Provo, UT

Bachelor of Science in Electrical Engineering, Anticipated April 2026

GPA 3.63/4.00

- Electrical Engineering Research Assistant (1 year 9 months)
- Electrical Engineering Coursework: EC EN 340 Circuit Design, EC EN 380 Signals and Systems, EC EN 426 Computer Networks, EC EN 464 Wireless Communication Circuits, EC EN 360 Electromagnetic Fields and Waves, EC EN 462 Electromagnetic Radiation and Propagation, EC EN 475/476 Capstone Project
- Electrical Engineering Intellectual Property: EC EN 595 Patent & IP Law Fundamentals
- Computer Science Coursework: EC EN 330 Embedded Programming, EC EN 224 Computer Systems, CS 235 Data Structures, CS 236 Discrete Structures
- Mechanical Engineering Research Assistant (3 months)
- Mechanical Engineering Coursework: PHSCS 121 Newtonian Mechanics, ME EN 101 Static Systems, PHSCS 220 Electricity and Magnetism
- Advanced Mathematics Coursework: MATH 314 Multivariable Calculus, MATH 213 Linear Algebra, MATH 215 Computational Linear Algebra, MATH 334 Ordinary Differential Equations
- Seminar classes? : ME EN 191 New Student Seminar, EC EN 191 New Student Seminar
- Attended ??? Department ??? Presentations for EE Student Researchers: List of Topics (Date)
- Attended Honors Thesis Poster Session: Artificial Intelligence Usage by Students, VR/AR in the workplace (March 2024)

**Gunn High School**, Palo Alto, CA

2016-2020

GPA 3.74/4.00

- Led a team of 30 sophomores, juniors, and seniors in the design, prototyping, iteration, and integration process to compete in the international FIRST Robotics Competition
- Managed tight deadlines involving 6 different subteams (controls, pneumatics, welding, etc.)
- Designed and prototyped a gearbox for a powered omni-directional drivetrain
- Developed extensive experience in Autodesk Inventor to model a 120 pound robot in CAD that threw dodgeballs at a target, interacted with game pieces, and ascended a structure
- AP Physics C (Mechanics, Electricity, and Magnetism), AP Computer Science (Java), AP Calculus AB
- Engineering Technology, Functional and Object Oriented Programming
- Most Improved Runner, Gunn High School Cross Country, 2016
- ACT Score: 34 (English 35, Math 35, Reading 32, Science 33)

## PUBLICATIONS & PRESENTATIONS

- Miner, C. T. (2026, May). *Charge Detection Mass Spectrometry (CDMS) of Microparticles* [Conference presentation]. 2026 Intermountain Engineering, Technology and Computing Conference Presentation. Anticipated May 2026.

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- **Senior Capstone Presentation. Anticipated April 2026.**
- Jardine, H. O., Miner, C. T., Christie, E., Chiang, S. W., & Hawkins, A. R. (2025). Charge Detection Mass Spectrometry of Micron-sized Particles Using Printed Circuit Board Electrodes. Manuscript submitted for publication.
- Miner, C. T. (2025, May). *Describing Dust Using CDMS* [Conference presentation]. BYU IMMERSE, Provo, UT, United States.
- Miner, C. T. (2024, June). *Describing Dust Using CDMS: Preliminary Findings* [Conference presentation]. BYU IMMERSE, Provo, UT, United States.

## WORK EXPERIENCE

**Electrical Engineering Research Assistant, Hawkins Laboratory**, Brigham Young University, Provo, UT  
FIELD CONTROLLED SINGLE CRYSTAL GROWTH PROJECT, *April 2025 - Present*

- Iterate experimental setup for more repeatable, consistent testing of how ice freezes when an electric field is applied
- Create readable graphs to elucidate trends in the data
- Write code to reduce human error in the system by automating as many variables as possible
- Experiment with different ways of accurately measuring the temperature of a small drop of water, while minimizing the effect the device has on the temperature of the drop itself

CHARGE DETECTION MASS SPECTROMETRY OF MICRON-SIZED PARTICLES PROJECT, *April 2024 - August 2025*

- Built devices and software to repeatably determine the charge and mass of micron-sized airborne dust particles
- Prototyped more robust, repeatable testing setups – expanded procedures for eliminating electronic noise, machined more precise parts to capture more particles, 3D printed mounts to hold pieces in place,
- Captured data from an oscilloscope and processed the CSV file
- Wirebonded custom amplifier chip to larger PCB
- Submitted journal paper on our findings in the Review of Scientific Instruments

**Mechanical Engineering Research Assistant, Applied Biomechanics Engineering Laboratory**, Brigham Young University, Provo, UT

NIH BACK PAIN CONSORTIUM PROJECT, *April 2023 - September 2023*

- Fabricated nanocomposite strain sensors and attached them to 4-way stretch fabric
- Sewed and soldered connections between strain sensor array and custom PCB
- Shipped completed products for testing across the country, used for characterizing lumbar spine flexion in patients with and without lower back pain

## EXTRACURRICULAR & CLUB ACTIVITIES

**Plant Monitoring Project**, Provo/Orem, UT

- Built an IoT system to monitor my plants' moisture levels so I know when to water them
- Used COTS parts and a Python script to send JSON files to a wifi connected RaspberryPi
- Created a database using InfluxDB and connected that database to Grafana to display the data
- Connected RaspberryPi to Tailscale network to monitor plants away from home

**Origami Club Member**, Brigham Young University, Provo, UT  
*September 2022 - April 2023*

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- Attended weekly club meetings (1.5 hr/wk)
- Assisted other club members as needed
- Focused on basic folding techniques: Rabbit Ear, Squash, Pleat, Reverse, etc.
- Completed projects: Dragon, Chameleon, Horse, Unicorn, Sun, Java Sparrow, Kangaroo, T-Rex

## SERVICE & LEADERSHIP

**Member**, The Church of Jesus Christ of Latter-day Saints

*November 2009 - Present*

- Attend church services (2hr/wk) and weekly activities (1 hr/wk)
- Deliver 10-minute talks in front of 250-person congregations: **ADD TALK TITLES AND DATES**
- Visit assigned members to fellowship and assist as needed

PRIMARY TEACHER, Hillcrest 4th Ward, Orem, UT, *January 2025 - Present*

- Teach 6, 7, 8 year olds for 0.5 hr/wk with engaging lessons

BISHOPRIC 2ND COUNSELOR, Provo YSA 7th Ward, Provo, UT, *April 2024 - December 2024*

- **Organized and ran leadership meetings, coordinated volunteer efforts, planned gatherings with 100+ people**

TEMPLE & FAMILY HISTORY LEADER, Provo YSA 7th Ward, Provo, UT, *October 2023 - April 2024*

- Facilitated efforts for people to learn more about their family history through publicly available records such as census and immigration documents

ASSISTANT WARD CLERK, BYU 55th Ward, Provo, UT, *September 2022 - April 2023*

- Assisted with record keeping responsibilities including measuring church attendance, managing member records, and providing administrative support

PRIEST QUORUM 1ST ASSISTANT, Baylands Ward, Palo Alto, CA, *November 2017 - October 2019*

- Assist the bishop with leading and planning quorum activities both on Sunday and for mid-week youth group

TEACHER'S QUORUM PRESIDENT, Palo Alto 2nd Ward, Palo Alto, CA, *November 2015 - October 2017*

- Led boys ages 14-16 in weekly meetings, created scheduling spreadsheet for administrative tasks for members ages 12-16

DEACON'S QUORUM PRESIDENT, Palo Alto 2nd Ward, Palo Alto, CA, *November 2013 - October 2015*

- **Planned activities for the 12-14 year old boys**

**Full-Time Religious Service Volunteer**, The Church of Jesus Christ of Latter-day Saints, Los Angeles, CA

*July 2020 - July 2022*

- 9 week intensive course in Vietnamese
- **ADD DETAILS ABOUT REGULAR MISSIONARY SERVICE**
- **Serve members of the community, including yard work, moving, and setting up local events**
- **PRESENTATIONS**
- **Presented lessons and answered questions about God, Jesus Christ, and faith**

TECHNOLOGY SPECIALIST, CALIFORNIA LOS ANGELES MISSION, *July 2021 - July 2022*

- Trained 80+ Zone Leader volunteers on technology best practices
- Managed data for 300+ volunteers by creating a 10-tab easy-to-use spreadsheet which tracked key performance indicators using pivot tables, filters, and charts

TRAINER, CALIFORNIA LOS ANGELES MISSION, *October 2020 - November 2020, January 2021 - April 2021, February 2022 - April 2022*

- **Taught individual new volunteers for 6-12 weeks at a time about how to best use their 2 years of service: everything from how to get better at talking with strangers to using specialized apps**

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ZONE LEADER, CALIFORNIA LOS ANGELES MISSION, *May 2021 - February 2022, April 2022 - May 2022*

- Led teams of 20+ volunteers in setting and reaching goals via monthly conferences and initiatives
- Reported to mission leaders about goals, successes, and challenges faced in the zone
- Met with pairs of volunteers to work through challenges and help them find ways to be more productive
- Conducted 1-on-1 all day performance reviews at least every week with different volunteers

DISTRICT LEADER, CALIFORNIA LOS ANGELES MISSION, *January 2021 - May 2021*

- Met weekly with 6-8 other volunteers follow up with past goals and then set new goals
- Conducted 1-on-1 all day performance reviews at least every week with different volunteers

**Boy Scout**, Boy Scouts of America, Palo Alto, CA

*October 2013 - October 2020*

- Led Eagle Scout project to organize community members to sew 70+ teddy bears for a local foster care program
- As Senior Patrol Leader, organized an interfaith service day with an all-Muslim scout troop attended by 40+ people
- Participated in beach cleanup days, weeding out invasive plants in marshland, and constructing new batting cages at a local park

**Camp Counselor**, Gunn Robotics Summer Camp, Palo Alto, CA

*May 2018 - June 2018*

- Helped create the first Gunn Robotics Summer Camp for local middle schoolers to teach engineering principles using VEX IQ robotics kits

## SKILLS

- Electrical Engineering and Computer Programming Software: MATLAB, LTSpice, Altium Designer, Tableau, Visual Studio
- Computer-Aided Design (CAD) Software: Fusion 360, Inventor, OnShape
- Prototype Fabrication: Lathe, Mill, 3D Printer, Laser Cutter
- Programming Languages: Python, C, C++
- Office Software: Excel, Word, Powerpoint, Visio
- Languages: Vietnamese (basic reading, writing, speaking, listening), French (basic reading, writing, speaking, listening)

## ASSOCIATIONS

- Institute of Electrical and Electronics Engineers, 2025 - Present
- National Association for Amateur Radio (Call Sign: KN6DNY, Technician Class), 2019 - Present
- FIRST Robotics, 2017 - 2020

## CERTIFICATIONS

- Eagle Scout, Boy Scouts of America, 2019
- CPR??
- Food handling?

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- Autonomous Award, Name of Regional Competition, FIRST Robotics, 2019
- Scholarships?

## HOBBIES

- Learning Morse Code to chat with my grandpa (Amateur Extra Class)
- Mastering a new origami crease patterns to relax
- Perfecting new recipes – challah, pot de crème, sous vide salmon, crème caramel, etc.
- Hand-making knitted Weasley Christmas sweater - a work in progress (Goal: Halloween 2025)
- Training for my first half marathon
- Solve New York Times Crossword Puzzles together with family (6 years)
- Listening to Darknet Diaries, a cybersecurity podcast. Attending SAINTCON this year!

### • ORIGAMI HOBBY

- Enjoy thinking about how I can integrate origami into my projects to make them simpler and more compact
- Explore compliant mechanisms and how they blend math with the physical world
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- I enjoy the simultaneously relaxing but unforgiving task of extracting life out of otherwise dull paper. Many angles in an origami model can be solved just from the instructions, which is a great thought exercise on its own. But what I love is when near the end of a more complex model, the artist gets the chance to shape the paper. This could be adding delicate curves to the horns of a deer or shaping the flow of a Nazgûl's cloak.
- It is also an exacting art. From the first fold, any deviation from the template can wreak havoc that might not be fully realized until hours later. It requires hours of precision and not settling for "good enough".
- List of projects (in increasing order of complexity; dates?):

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## Brigham Young University Major: Civil and Construction engineering

BYU Construction management ranked #1 in value 2018

### **“Best Construction Management Schools**

Brigham Young University – Provo, Stevens Institute of Technology, California Polytechnic State University – San Luis Obispo, Virginia Tech, and California State University – Long Beach are among the best construction management schools in America. These institutions feature comprehensive curricula, experienced faculty, and strong industry partnerships.

These construction management colleges and universities make sure in-state and out-of-state students receive a well-rounded education tailored to the demands of the construction field. With online programs, students can achieve their undergraduate and graduate diplomas at their own pace.”

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<https://www.valuecolleges.com/ranking/best-construction-management-degrees/>

### **“EXPERIENTIAL LEARNING**

A key aspect of the CFM program and BYU’s mission and aims involve a strong emphasis on experiential learning. CFM students are encouraged and required to gain experience in many ways. Working closely with faculty, students have opportunities to participate in national team competitions, participate in studies abroad, perform mentored research, and develop skills in specific areas of their interest. These hands-on opportunities not only prepare them for their future careers, but also create amazing networking opportunities with fellow students, faculty, and professionals.”

<https://cce.byu.edu/why-cfm>

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Curriculum Vita



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Dear Sir or Madam:

Thank you...

I'm applying for...

You've made a difference in my life...

Sincerely,

Student Name