

## Daniel Ben-Levi

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Ambitious high school senior with interdisciplinary interests in linguistics, computational linguistics, cognitive sciences, philosophy, education, entrepreneurship, and social justice.

## Education

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**Newton South High School** – Class of 2023

**GPA:** 4.0/4.0 **ACT:** 35

**AP COURSES COMPLETED (Score):** Chemistry (5), US History (5)

**AP COURSES IN PROGRESS:** Calculus BC, Language and Composition, French, Psychology, Physics C: Mechanics, Physics C: Electricity and Magnetism

**College Course Audits In Progress:** MIT 24.93 The Search For Meaning, University of Massachusetts Amherst LING 402 Speech Sounds and Structure

**Extra-curricular courses:** 33rd European Summer School in Language, Logic, and Information (2022), ACLU National Advocacy Institute (2022), Martial Arts Lessons (2011 - Present), InspiritAI Scholars (2021), Boston Leadership Institute Engineering Research (2021), iDTech Advanced Python Coding with ML & Cryptography (2021), iDTech Coding Apps with Java (2021), BWSI Yes! You Can Program Autonomous Cars (2021), iDTech Python Coding: Arcade Games and AI (2021), Guitar Lessons and Performances (2011 - 2021), Ice Hockey (2013-2020)

## Research Experience

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**University of Massachusetts Amherst, Linguistics Department**

- Collaborated with Dr. Michael Becker, a renowned phonologist
- Completed a project investigating the pronunciation of 19th century French poems
  - Performed analysis of poets' meters and tendencies to generate stochastic grammar and statistical reports
  - Wrote a program that used indicated constraints to mark the most probable intended reading
  - Performed computational analysis comparing the works of poets to quantitatively confirm reading traditions
  - Wrote large sections of the project's final paper (intro, probabilistic analysis, stochastic grammar creation)

**Independent Linguistics Research**

- Literature review discussing the effects of the universal grammar theory on the social sciences
- Project on the best way to draw syntax trees, involved carrying out a study at my high school
- Project on the effects of tone and stress on meaning
- Project on the origins of semantic differentiation
- Collaborated with MIT Master's student Roger Jin on the use of AI to generate individual ESL language practice

**Blog Writing**

- Biweekly linguistics / computational linguistics blog posts discussing basic concepts and modern advancements

## Leadership Experience

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**English Haven** – Founder and President

- ELL non-profit that promotes equality in education and opportunity for refugee children
- Worked with 50+ families
- Organized social media campaign to promote ESL tutoring and raise awareness
- Partnered with organizations across the US

**LigerBots, FRC 2877**

- Chief Marketing Officer
  - Led outreach (22 events), fundraising (\$17,000), publicity, meeting planning, and training for team of 92
  - Qualified for the World Championship (logistics prevented attendance)
  - Entrepreneurship Award (Indv), Engineering Inspiration Award (Team), Gracious Professionalism Award (Team)
- Patent Lead
  - Led the writing of a provisional patent: non-auditory communication in team sports – Accepted 2021
  - Self-taught legal writing
- Electrical Engineer
  - Designed electrical boards for signaling device + swerve drive bot, designed casing + researched materials, CAD
  - Contributed to competition + outreach robot designs

**Challenges in Computational Linguistics Club** – Founder and President

- Established community to promote study and knowledge of computational linguistics
- Delivered lectures on modern advances in the field, taught interpretation of algorithms and research skills
- Taught solutions NACLO (North American Computational Linguistics Olympiad) puzzles
- Guided hands-on research, constructed verb-conjugation neural net to study lang. acquisition capabilities

## Teaching Experience

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**Kids Kicking Cancer**

- National non-profit organization that teaches pain and stress management to pediatric patients
- Teach martial arts and meditation techniques to students

**Esposito's Academy of Self-Defense**

- Teach students the value of respect, self-discipline, goal setting, positive attitude, and fitness
- Led teams of instructors in teaching groups of up to fourteen students