ASHER WANG

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EDUCATION

Central Bucks High School East — Doylestown, PA

High School Diploma — *Class of 2027*

- **Unweighted GPA: 4.0/4.0** (Expected Valedictorian); Cofounded Holicong MATHCOUNTS Club (CoPres 9th), VP STEM Research Club (10th), SRC Education Committee Board, Pres Entrepreneurship Club, CoPres DECA, Treasurer Biobridge, Animal Science Club, Student Council; Varsity Tennis, Chamber Strings (9th)
- Relevant Coursework (10th): AP Calc AB (5), AP CSP (5), AP Stat (5), AP Euro (5), Chem H, Spanish 3H, Gifted Independent Study (GIS); (11th): AP Calc BC (5), AP Physics C Mech (5), AP Macro (5), AP Lang (5), APUSH, Spanish 4H, GIS; (12th): AP Physics C E&M, Calc III, AP Bio, AP Lit, AP Psych, AP Micro, GIS

RESEARCH EXPERIENCE

Paradigm Frontiers — *Oct 2026*

- Co-built and demoed Arnor, an AI trustee that learns a person's values from their records to recommend inheritance decisions, with confidential computing to keep data private.

MiniMap — *Sep 2026-Current*

- Open Category Runner-Up ($1,000) at selective collegiate hackathon (Ivies, MIT, Stanford, Caltech) for a real-time spatial intelligence platform for crisis decision making and first responders, currently prototyping
- Live MVP demos of edge-to-command: 1) anchorless indoor localization around walls via UWB + VIO; 2) bodycam for live multi-agent 3D environment reconstruction via LiDAR RTAB SLAM
- Presented in Washington D.C.; upcoming demonstrations to Link Ventures, Parallel VC, DoW…

Massachusetts Institute of Technology (MIT) Research Science Institute (**RSI**) — *Jun 2026-Current*

- Research in Cambridge, MA: free, all expenses paid by Center for Excellence in Education & MIT
- Math with Dr. Skinner (Princeton), Biology with Ms. Sumathipala (Harvard Medical School)
- Cardio-oncology and live-cell imaging internship project with Chen Lab: Temporal Mapping of Doxorubicin-Induced Alterations in Autophagic Flux in hiPSC-Derived Cardiomyocytes

Testing of Urinary Metabolomics in Canine Mammary Tumor (CMT) Diagnostics… — *Sep 2023 - Current*

- Conceptualized novel non-invasive diagnostic method utilizing 1H NMR urinary metabolites
- Developed ML models to detect/diagnose/grade CMTs and explored its prognostic value
- Abstract accepted & poster presented at the Veterinary Cancer Society 2025 Annual Conference (UT)

UPenn PSSI at the Laboratory for Research on the Structure of Matter (LRSM) — *July 2025*

- Selected as one of 16 attendees for a free 4-week summer research program sponsored by the Penn Materials Research Science and Engineering Center, funded by the National Science Foundation

DOGMAP: Diagnosis and Treatment of CMTs in Dogs using Multiomic DL — *Aug 2024-Mar 2025*

- Used AI and integrated analysis to analyze multimodal data (genomics, transcriptomics, metabolomics, proteomics, images) & improve precision medicine diagnosis/treatment planning of breast cancer
- Processed large-scale data (t-SNE, UMAP) in R and built custom neural network architecture in Python
- Created low-cost proof-of-concept device using Pi/Arduino capable of delivering diagnoses
- Built end-to-end platform (PC app, Android chatbot, realtime IoT database) for prospective clinical usage
- Project was presented at the SAPA-GP annual biopharma conference (March 2025)

Investigation of AMR of Important Pathogens in Poultry in the U.S. — *Feb 2024 - Aug 2024*

- Research collaboration supervised by Huang Lab (Villanova University) - investigated antimicrobial resistance (AMR) in foodborne pathogens to inform targeted policies and mitigate global AMR threats
- Mapped and profiled regional and temporal patterns of AMR using NCBI Pathogen Isolates Browser (data isolated from chicken and turkey) and multivariate statistical techniques such as PCA and HCA in R

DOGMA: Diagnosis of CMTs in Dogs Using Machine Learning — *Sep 2023 – May 2024*

- Presented at the Regeneron International Science and Engineering Fair 2024 (Los Angeles, CA)
- Featured by the National Anti-Vivisection Society and International Foundation for Ethical Research

Johns Hopkins Applied Physics Lab (APL) Space Science Research — *Jun 2023 - Jul 2023*

- Built a small-scale spacecraft prototype as a proof of concept for bringing solar probes closer to the sun

PUBLICATIONS

- **First Author**: **Wang AT**, Tang L, Gao A, Zhang E, Huang G, Shen J, Jia Q, Huang Z. Investigation of the Antimicrobial Resistance of Important Pathogens Isolated from Poultry from 2015 to 2023 in the United States. Pathogens. 2024; 13(11):919. https://doi.org/10.3390/pathogens13110919
- **First Author**: **Wang AT**, Lee S, Seung BJ, Sorenmo KU. Testing of Urinary Metabolomics in Canine Mammary Tumor Diagnostics: An Exploratory Study to Investigate the Positive Predictive Value of Urine in

Informing Early Treatment Decisions. Presented at the VCS 2025 AC

- **First Author**: Wang AT, Sorenmo KU, Seung BJ. Urinary nuclear magnetic resonance metabolite profiles… (Submitted to: *Scientific Reports*, 09/2026)
- **First Author**: Wang AT, Kantrowitz M. The Age Gradient in Federal Student Loan Default: Implications... (Submitted to: *Journal of Student Financial Aid*, 09/2026)
- Manuscript in development: Endogenously tagged LC3 in human-induced pluripotent stem cell-derived cardiomyocytes allows for accurate live imaging of autophagy in response to chemotherapeutic drugs

WORK EXPERIENCE

Fireside Holdings LLC dba Fireside Furnishings — Jamison, PA

CEO, E-Commerce Business Analyst & Marketing Specialist — *Dec 2023 - Current*

- Founded/scaled an Amazon retail B2C business model specializing in home appliance arbitrage market to self-fund R&D and launch of proprietary private label outdoor living brand (firesidebusiness.com)
- Led due diligence, product sourcing, supply chain logistics, marketing, & customer service

LEADERSHIP

- Founder & Administrative Director - ACEing Autism Nonprofit 501(c), Bucks/Montgomery County Chapter
- Founded & Directed Pearl S. Buck "A Mile for Meals" Fundraiser – raised meals for 150+ children in need ("A Mile for Meals" the brainchild of Pearl S. Buck leadership program teens | buckscountyherald.com)
- Star Rank & Chaplain Aide/former Troop Instructor, Boy Scouts of America (Troop 542, Maple Glen)
- Cofounded CB Chinese American Association (CBCA) Tennis Club & Website Development (cbcaa.org)

SELECTED HONORS & AWARDS

- **Regeneron International Science and Engineering Fair (ISEF) Finalist** 2024 (Awarded $3000 in prizes)
- **National Anti-Vivisection Society Humane Science Award** - Special Award Received at ISEF
- **NC State College of Engineering International Award** - Special Award Alternate Received at ISEF
- **DECA Intl… (ICDC) RMS 4th Place Internationally** 2026 (Awarded Silver Ribbon for testing)
- Medalist at Delaware Valley Science Fair Tri-State Competition (1 of 3 freshmen across PA, NJ, & DE)
- Telluride Association Summer Seminar (TASS) AOS Cornell 2026 Invitation (Declined - conflict with RSI)
- Two-time 1st Place in Category, Delaware Valley Science Fair & Bucks County STEM Research Competition
- Two-time Recipient of President's Volunteer Service Outstanding Award - 2023 & 2024 (Silver and Bronze)
- Three-time 1st Place Winner, PA Junior Academy of Science (PJAS) Statewide, Perfect at PJAS Regionals
- Three-time SOL Colonial Tennis Champion; USTA Middle States 2025 PATD Junior Volunteer of the Year
- Finalist in Future Business Leaders of America State Leadership Conference (category of data analysis)
- States Medalist, 1st Place DECA Regionals, 2025-26 Marketing Retail Merchandising Series (test & roleplay)
- Crescendo International Music Festival 2nd Place – Solo Piano Performance at Carnegie Hall
- Category Winner & State Qualifier, National History Day Bucks Mont Regionals Competition
- National Merit Semifinalist, AP Scholar with Distinction; College Board Nat. Small Town Recognition Award

SKILLS: Python, R, Statistics, Machine Learning, Online Retail/Marketing (E-Commerce)

CERTIFICATES: IBM - Databases and SQL for Data Science with Python: Gained proficiency in SQL queries to manipulate data from relational databases, and integrated Python (Pandas) for data analysis
Google - Attract and Engage Customers with Digital Marketing: Developed expertise in customer acquisition (on-page/technical SEO & SEM/PPC for paid advertising campaigns)