

# REVA BHATT

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## SUMMARY

Innovation-focused problem solver passionate about translating ideas into practical solutions. I learn by doing, value real-world impact over theory, and bring genuine curiosity to every challenge. Whether it's segmenting CT scans or building tools for communities, I ask, "Does this actually make sense?" and make it happen.

## EDUCATION + SKILLS

<b>Great Valley High School</b> , Malvern, PA	Class of 2026
<b>Technical Skills</b>	Python, Java, C++, C#, JavaScript, SQL, MATLAB, Unity, 3D Slicer, AWS, Stripe API
<b>Soft Skills</b>	Communication, Problem Solving, Leadership, Strategic Thinking
<b>Relevant Coursework</b>	AP CS Applications, AP CS Principles, AP Calculus BC, AP Physics C, AP Physics E&M, Multivariable Calculus, Linear Algebra, AP Statistics

## RESEARCH

<b>Medical AI Researcher</b> University of Pennsylvania - Dr. Chamith Rajapakse	March 2023 - Present <i>Philadelphia, PA</i>
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<i>Osteoporosis Screening App</i>	April 2025 - Present
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- Developing app to identify early osteoporosis indicators through accessible screening
- Created automated pipeline using 3D Slicer and TotalSegmentator to segment cervical vertebrae and extract bone density metrics for ML analysis

<i>AI-Driven CBCT Analysis for Bone Density</i>	March 2023 - May 2025
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- Conducted AI-assisted analysis of CBCT scans for early detection of low bone density
- Authored full research paper on opportunistic screening and preventative healthcare applications
- Segmented 3D CBCT data and transformed medical imaging into quantitative features for ML

<b>Simulation Researcher</b> Carnegie Mellon University - Dr. Kathleen Carley	July 2025 - Present <i>Pittsburgh, PA</i>
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- Developed Unity-based cybersecurity training platform creating interactive 3D simulations from MITRE ATT&CK framework
- Designed C# algorithms reducing defensive-strategy training time by 60% through real-time visualization

<b>Medical AI Developer</b> Villanova University - Dr. Chandrasekhar Nataraj	September 2024 - August 2025 <i>Villanova, PA</i>
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- Created app predicting dental tool failure 15 minutes before breakage, preventing medical errors
- Processed sensor data using MATLAB/Python with FFT and Wavelet analysis, achieving 94% accuracy

<b>NASA GeneLab Research Intern</b>	June 2025 - August 2025
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- Completed training in space life sciences, bioinformatics, and computational biology
- Analyzed biological and genetic datasets in simulated spaceflight contexts

<b>VR HealthTech Developer</b> PennApps XXV Hackathon	September 2024
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- Built Elephansty: VR tool helping 2% of population with aphasia visualize imagination through AI-generated 3D scenes
- Selected as one of handful of high schoolers from 2,000+ applicants; tech: Flutter, A-Frame, Android, Google Cloud, Stable Diffusion
- Built full pipeline from text prompt to multi-perspective VR rendering

## Independent Research

### High-Degree Polynomial Root Finder

January 2023

- Developed Java implementation of Newton-Raphson method for computing roots beyond calculator capability
- 1st place Delaware Valley Science Fair; Air Products Young Innovators Award; 2nd place Tri-State Science Fair
- 1st place Programming Award, 2023 Regional Media and Design Competition

## EXPERIENCE

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### Software Developer

Nth Solutions

May 2025 - Present

*Coatesville, PA*

- Work as Python developer and data analyst on product development for company and clients
- Contribute to software, firmware, hardware design, prototyping, and testing

### Co-Founder & Technical Lead

Arts.Care (Non-profit)

August 2016 - Present

*Malvern, PA*

- Built from bedroom at age 13 during COVID; scaled to \$17K+ movement across 4 school districts
- Building custom e-commerce platform; tech stack: Python, JavaScript, SQL, AWS, Stripe API
- Established 4 chapters with 50+ members; 1000+ masks donated to U.S. Navy and CHOP; \$12K+ to Shriners Hospital
- Overall impact: 1500+ people reached, 50+ events hosted, \$17,000 raised

### Ethical Leadership Fellow

Camp Rising Sun - The Louis August Jonas Foundation

June 2024 - July 2024

- Selected for international cohort (30 countries) exploring leadership, identity, and justice
- Led team challenge; rebuilt Arts.Care to community-led structure, resulting in 1 new chapter and 2 initiatives

### Dental Shadowing

Dr. Stone Dentistry - Dr. Jonathan Stone

June 2025 - August 2025

*Wayne, PA*

- Observed clinical procedures, patient care, and practice management

## ACHIEVEMENTS + LEADERSHIP

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- VEX Robotics World Championship Qualifier (2022)
- 2nd place, Great Valley High School AMC 10 Competition
- Girl Scout Ambassador: Active since 2016, Bronze Award (40 care bags for homeless shelters), working toward Gold Award; led Petals Please project, food bank drives, hospital volunteers; top cookie seller
- Math Club: Recruited 12 members, organized 4 new competitions
- CS Club: Recruited 12 girls to increase female representation
- Girl Up: Recruited 10 members for girls' education advocacy