Nicole Parlett

50 Leon Street, Boston MA | parlett.n@northeastern.edu | +1 925-788-9020

EDUCATION

Northeastern University — **Boston, MA**

Candidate for ***Bachelor of Science in Behavioral Neuroscience*** — *May 2028*

Relevant Courses:

- Psychopharmacology
- Clinical Neuroanatomy
- Fundamentals of Computer Science
- Biological Psychology
- Neurobiology

ON CAMPUS INVOLVEMENT

College of Science Student Diversity Advisory Council (COSSDAC) — **Boston, MA**

Communications Coordinator — *April 2026-April 2027*

- Recruits and coordinates panelists for club-hosted events, managing outreach and logistics with student speakers across diverse academic and professional programs

Undergraduate Research Club (URC) E-Board Assistant Director of Mentorship — **Boston, MA**

Assistant Director of Mentorship — *April 2026-April 2027*

- Supports the Director of Mentorship in running a peer mentorship program connecting students with research mentors, tracking outcomes through data collection and progress monitoring

RESEARCH EXPERIENCE

Northeastern University Biology Department — **Boston, MA**

Research Assistant in the Cram Lab — *January 2025-December 2025*

- Conducted wet-lab experiments in C. elegans, including sample preparation, microscopy preparation, and biological protocol execution
- Performed PCR, gel electrophoresis, plasmid preparation, and DNA purification, maintaining organized lab notebooks to ensure reproducibility

Broad Institute of MIT and Harvard

Northeastern Research Assistant Co-Op int the Macosko Lab — *July 2026-December 2026*

- Applied spatial transcriptomics methods (Slide-seq–style approaches) to generate high-resolution gene expression maps from intact tissue sections
- Applied single-cell transcriptomic analysis to characterize cell type and state changes in the nervous system relevant to neuropsychiatric disease

SKILLS

Standard molecular biology techniques (PCR, gel electrophoresis, cloning, plasmid preparation, DNA purification, agar plating), aseptic technique, centrifugation, microscopy preparation, pipetting, python

PERSONAL PROJECTS

Brain Tumor Classification (BraTS Dataset)

- Built a binary tumor-present/absent CNN classifier using real clinical MRI data from the BraTS-GLI dataset (~1,250 patients), independently
- Designed a patient-level train/val/test split to prevent data leakage and implemented preprocessing and augmentation pipelines for MRI slice classification

Antibody Validation Agent

- Designed a multi-stage evidence pipeline that aggregates vendor claims, published validation data, and documented failure reports to grade antibody reliability
- Built a tiered evidence-grading system with citation tracking, distinguishing corroborated failure reports from single anecdotal claims to reduce false positives

AI-Powered Clinical Trial Matching App

- Developed a full-stack application that uses AI to match patients with relevant clinical trials based on condition and eligibility criteria
- Integrated the Claude API to generate accessible, plain-language summaries of trial details for non-technical users

Mindful Makers Hackathon with AWEAR — **Boston, MA**

10th Hackathon for Wellness in Everyday Life — *April 11, 2026*

- Built an EEG-based stress-detection pipeline for the AWEAR app, using physiological indicators to flag real-time deviations from a user's personalized baseline via a trained ML model, and paired detections with AI-guided breathing exercises delivered through a conversational "therapist" interface