# ExomePLUS Benchmark Steps

**Happy Metrics by Sample**

1. Apply GATK PASS/FAIL hard filters

bcftools filter -s FAIL -i '(TYPE="snp" & INFO/QD>=2 & INFO/FS<=60 & INFO/MQ>=40 & INFO/SOR<=3 & (INFO/MQRankSum="." | INFO/MQRankSum>=-12.4) & (INFO/ReadPosRankSum="." | INFO/ReadPosRankSum>=-8.0)) | (TYPE~"indel" & INFO/QD>=2 & INFO/FS<=200 & INFO/SOR<=10 & (INFO/ReadPosRankSum="." | INFO/ReadPosRankSum>=-20))' $vcf -Oz -o $output

1. Run ha.py

python hap.py --threads 3 $truthset $query -f $confidence\_bed -r $MUGQIC\_INSTALL\_HOME/genomes/species/Homo\_sapiens.GRCh37/genome/Homo\_sapiens.GRCh37.fa -o $dir/prefix

1. Aggregate .summary.csv data into indel\_all, indel\_pass, snp\_all, snp\_pass tables
   1. metric\_tables.R
      1. NOTE: you will need to manually enter your desired X axis (mean coverage, protocol name, etc.)
2. Plot metrics based on manually defined X-axis
   1. metric\_figure.R