Sang (Tony) Young Chun

| M: | 1609 Dexter Avenue | P: | (734) 904-4244 | W: | stonyc.github.io |
| | Ann Arbor, MI 48103 | E: | stonyc@umich.edu | GS: | https://goo.gl/2JAQie |

PROFILE

Doctoral candidate in computational medicine and bioinformatics with extensive experience in the integrative analysis of next-generation sequencing data.
- ✦ Extensive background in bioinformatics, and cancer -omics
- ✦ Experience with next-generation sequencing analysis, and software development
- ✦ Proficient in the integrative analysis of multi-scalar data to derive novel biological insights
- ✦ Superb written, communication, and visual presentation skills developed by rigorous research in a collaborative and team-oriented environment

EDUCATION

Ph.D., Computational Medicine and Bioinformatics	University of Michigan	07/11 - *05/17*
M,Sc,, Computational Medicine and Bioinformatics	University of Michigan	09/09 - 12/10
B.A., Biology	Kalamazoo College	09/96 - 06/00

SKILLS

Programming/Scripting	Machine Learning	Analytical/QC
Python (2.7+/3.0+)	PCA	FASTQC
R	Naïve Bayes	GATK
SQL (MySQL)	Regression Analysis	Post-alignment Processing
AWK	Hierarchical Clustering	- Picard, SAMtools, BEDtools
HTML	k-means	Differential Expression Analysis
PHP	DBSCAN	- DEseq, EdgeR, limma
Perl		Assembly + Abundance Estimation
Java	**Alignment**	- Cufflinks, RSEM, plastid
C++	Bowtie/Bowtie2	Gene Set Enrichment Testing
	BWA	- GO, GSEA
Operating Systems	TopHat	
Linux	STAR	**Version Control**
OS X	BLAST/BLAT	Git
Windows	Sailfish	SVN

TRAINING AND EXPERIENCE

Graduate Student Research Assistant | Ryan E. Mills, Ph.D.   07/13 -
- ✦ Developed SPECtre, a spectral coherence classifier of active translation using the tri-nucleotide periodicity inherent to ribosome-protected fragments aligned to the transcriptome.
- ✦ Applied SPECtre to identify variably translated upstream open-reading frames involved in the regulation of neuronal differentiation.

Graduate Student Instructor | University of Michigan   09/16 – 12/16
- ✦ Demonstrated basic and selected advanced functionalities of GitHub to first-year graduate students in an introductory course on bioinformatics.

Graduate Student Research Assistant | John K. Kim, Ph.D.   01/12 – 06/13
- ✦ Contributed to the characterization of 21U RNA biosynthesis through profiling of RNA Polymerase II and nucleosome occupancy analyses.
- ✦ Developed a graphical front-end in HTML and PHP to enable queries of a MySQL database of experimental mass spectrometry results.

Graduate Student Research Assistance (Rotation) | Goncalo Abecasis, Ph.D.   09/11 – 12/11

- ✦ Initiated exploratory analyses to characterize retrotransposon diversity and prevalence in a subset of 1000 Genomes data.

Graduate Student Research Assistant (Rotation) | John K. Kim, Ph.D.   07/11 - 09/11
- ✦ Evaluated the sensitivity and specificity of BWA and BLAT alignment of poly(A)-selected Roche/454 sequence reads against a targeted database of 3' untranslated regions in *C. elegans*.

Graduate Student Research Assistant | Arul M. Chinnaiyan, M.D., Ph.D.   01/10 - 07/11
- ✦ Adapted an exon probe selection algorithm to cluster exons based on correlated mRNA-Seq expression to identify novel prostate cancer transcripts.
- ✦ Characterized global signatures of differential alternative splicing that defined the epithelial to mesenchymal transition in Twist-treated and control HMEC lines.

Research Technician Associate | University of Michigan | Long H. Dang, M.D., Ph.D.   07/05 - 06/09
- ✦ Leveraged microarray and promoter sequence analysis to identify genes regulated by hypoxia-inducible factor-1 and -2 in colon cancer cell lines.

Research Technician Associate | University of Michigan | Susan E. Lyons, M.D., Ph.D.   01/02 - 07/05
- ✦ Integrated positional cloning and microarray analysis to identify the genomic determinant of a novel hematopoietic mutant in *D. rerio*.

Research Technician Associate | Detroit R&D | Hyesook Kim, M.D.   01/01 - 07/01
- ✦ Developed a commercial kit for detection of hypertension using an ELISA-based method to measure 14,15-DHET levels in biological samples.

GRANTS AND AWARDS

Name	Organization	Date	Details
Bioinformatics Training Grant	Brian D. Athey, Ph.D.	09/11	T32GM070499
Proteome Informatics of Cancer Training Grant	Alexey I. Nesvizhskii, Ph.D.	09/13	T32CA140044
Rackham Student Research Grant	University of Michigan	07/13	$1,500.00
Rackham Student Research Grant	University of Michigan	12/16	$3,000.00
Rackham Conference Travel Grant	University of Michigan	11/15	$800.00
Rackham Conference Travel Grant	University of Michigan	11/16	$800.00

POSTERS AND INVITED TALKS

Presentation	Date
Omics Strategies to Study the Proteome	Keystone Symposia	Breckenridge, CO	*02/17*
Spectral profiling of uORF translation in non-differentiated and differentiated neuroblastoma cells	
RNA Center for Biomedicine Inaugural Symposium	University of Michigan	Ann Arbor, MI	03/16
SPECtre: spectral coherence-based classification of actively translated transcripts from ribosome profiling sequence data	
RECOMB/ISCB Conference on Regulatory and Systems Genomics	Philadelphia, PA	11/15
Spectral coherence classification of uORF translation in a neuroblastoma cell model of differentiation	