

Hackathons

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KCA Think Tank 2021

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RareKidneyCancer.org

2018 p1RCC Hackathon Teams



2018 Hackathon flow and scoring

2018 p1RCC DNA Hackathon Process

TCGA
Data

Bill
Data
(DNA)

Ensemble of 17 weak classifiers

119 Recommended Genes

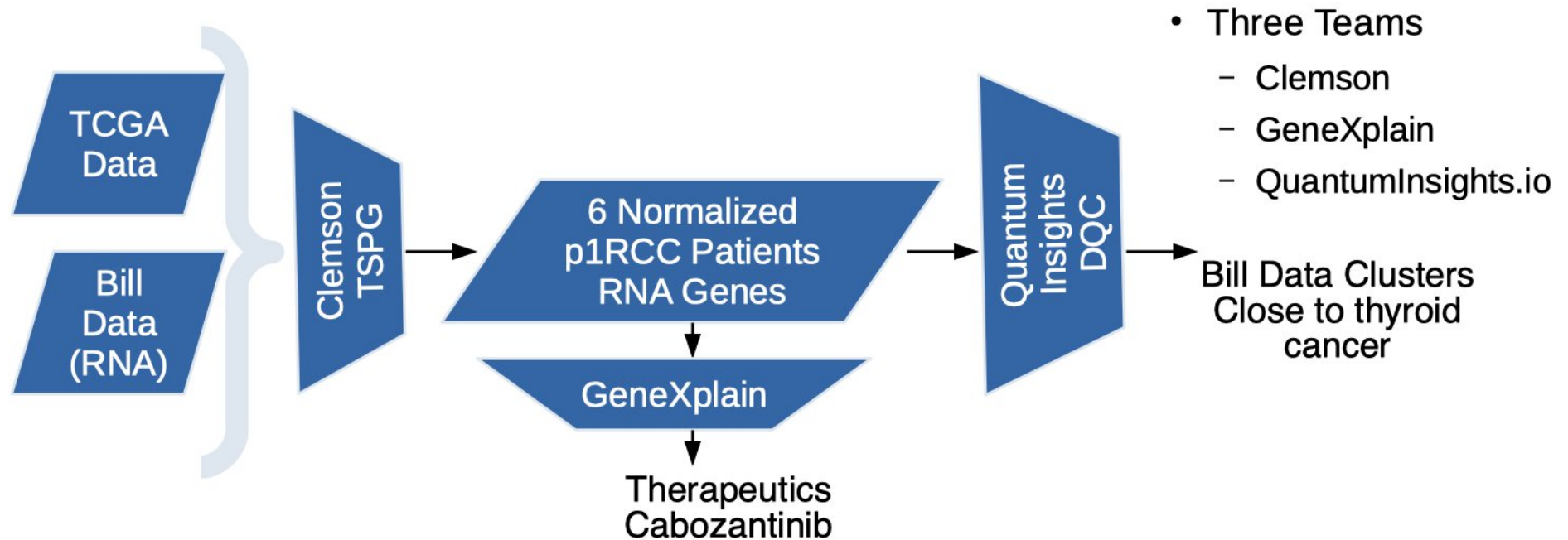
cancer-genome-workbench								
causalnucleotidenetwork								
RecausalNucleotideNetworks								
Aizheng	AKR1B10	BASP1P1	CLEC2B	CYP4F11	LINC00621	PLEKHO1	PLEKHO2	...
BioMarkers.ai	DMRT2	FHL1	KNG1	PTGER3	UMOD			
DamTheRiver	AC139425.3	ACSM2A	ANO9	AQP12B	GRIN3B	HEXB	HIVEP3	...
GEViz	NRF2-ARE							
HelloKidney	ITGAM	TNFSF4						
KidneyBean	TUBB8							
studentec	AMPD2	DPP6	FLG2	FTMT	ST6GALNAC5			
trimericOGs	AGBL4	ARIDA1	CUL-2	HPSE2	LAMC-1	SK3	TRABD2B	...
DeeperDrugs	BARD1	APOB	CDK9	TTRAP				
GNOME	BARD1	PDE4DIP	AHNAK	ANAPC1	BCLAF1	DNAJ27	PABPC1	...
HelloKidney2		PDE4DIP	FOLH1	GDNF	MTHFR	PFKP	PSMA	...
codeomics						MTOR	PIK3CA	...
HSIEH	SETD2	NF2	BAP1	KDM6A	PBRM1	MTOR	PIK3CA	...
ExpressForce	SETD2	NF2	BAP1	KDM6A	PBRM1	FGFR1	ARID1A	...
HIF1AIsNotAnOncogene						FGFR1	CDK4	...

10 Up Weighted
Classifications
(Genes)

- BARD1
- PDE4DP
- SETD2
- NF2
- BAP1
- KDM6A
- PBRM1
- MTOR
- PIK3CA
- FGFR1

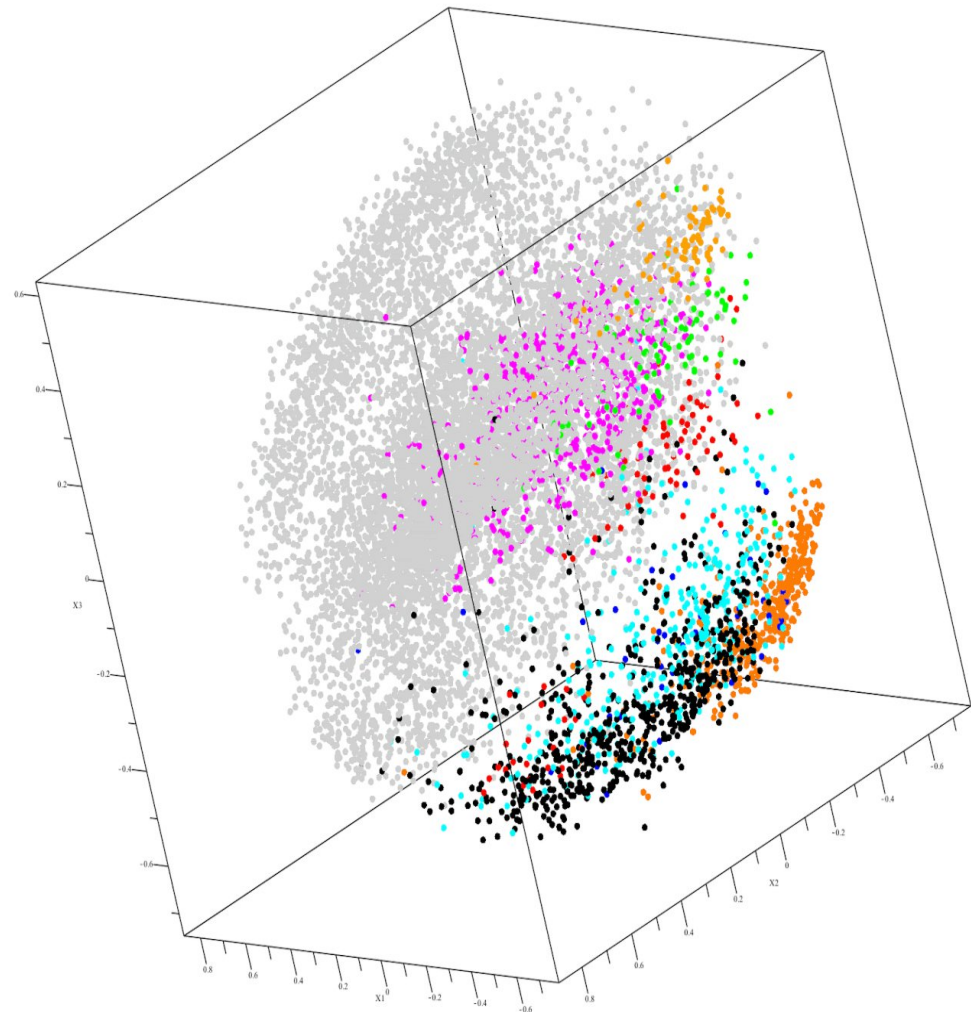
2020 Hackathon Flow

2020 p1RCC RNA Hackathon Process



Quantum Insights: Thyroid Cancer Clustering

KIRP	Cyan
KIRC	Black
KICH	Red
LIHC	Coral
THCA	Magenta
CHOL	Blue
UVM	Orange
ACC	Lime
Others	Light Gray



2020 Scoring of 2018 Results

Merging 2018 and 2020 Results

Team - 2018	Gene	BP-Tumor -2020
studentec	FLG2	-0.569807
BioMarkers.ai	FHL1	-0.370446
HelloKidney2	TAS2R19	-0.363179
ExpressForce	TERT	-0.358329
HelloKidney2	TYMS	-0.287382
...	...	
trimericOGs	HPSE2	0.567236
BioMarkers.ai	PTGER3	0.59603
BioMarkers.ai	DMRT2	0.621588
BioMarkers.ai	UMOD	0.657959
BioMarkers.ai	KNG1	0.668831

Join &
sort

- 2018 p1RCC
 - 119 recommended Genes
- 2020 p1RCC
 - 6 Normalized
 - p1RCC patient's RNA genes
- BioMarkers.ai sorted to either end of the chart.
 - Perhaps diagnostic
 - Likely not therapeutic

Rutger's Saed Sayad's Bioada



Clemson's 2022 Hackathon

	SV.ai	TRIcon	Clemson	Stanford
	2018	2020	2022	202x
Bill	x	x	x	x
Gigi			x	x
Patient X				x

An opportunity to create a social network for social good.

Summary

- Patient Centered Research
 - Patients control the event
 - Patients provide their own data.
 - Creates a longitudinal record over time.
 - Encourages Parental/Sibling data gathering
- Game Elements
 - Teams - Biologists, Bioinformaticians, CS guys.
 - Scoring - Objective judging of results.
 - Levels - Diagnostic and Therapeutic
- More at rarekidneycancer.org/blog

Future

- Game
- Social Networking
- DAO?
 - DAOs are internet communities with a shared capital and bank account.
 - Members work together to create, distribute and capture value relative to a shared mission.
Ownership shares economic, social and political components, creating best practices for digital coordination.
- Interested? Contact: bill@rarekidneycancer.org