

Being a Student Researcher

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What is this talk about?

- Saying “Hello!”
- Research in Software Engineering.
- Living and Studying Abroad.
- Anything else that you want to talk/ask about!

Who am I?

Vijay Krishna Palepu

- Computer Engineer from AIT, UoP; Passed out in 2010.
- Software Engineering Researcher ... in the making.
- Ph.D. student at University of California, Irvine.
- Living in Irvine, California.
- Software Debugging
- <http://vpalepu.com>

What do I do?

As a software engineering researcher ...

- I research how to analyze and think about software behavior.
- I analyze software behavior to find software bugs.

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- So debugging became important to me.
- And I often wondered how a software execution looks like.
- **As a researcher I try to solve problems and answer questions that are important to me.**

How do I approach debugging?

From **Software Behavior Analysis**
Towards **Debugging**

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- Bugs come in both forms
 - Software often impacts in unexpected ways.

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 - Software often impacts in unexpected ways.
 - Software often executes in unexpected ways.

What are my research questions?

- How does software behavior look like?

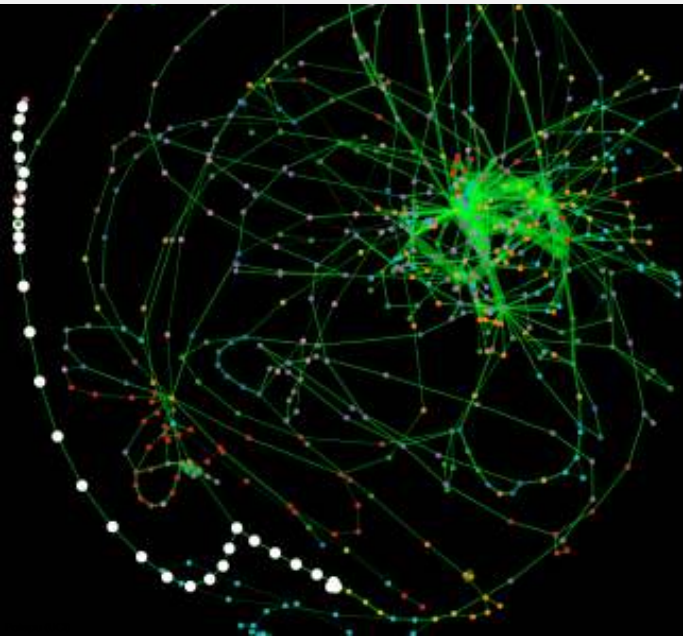
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- How does software behavior look like?
- How are instructions in software related to each other?

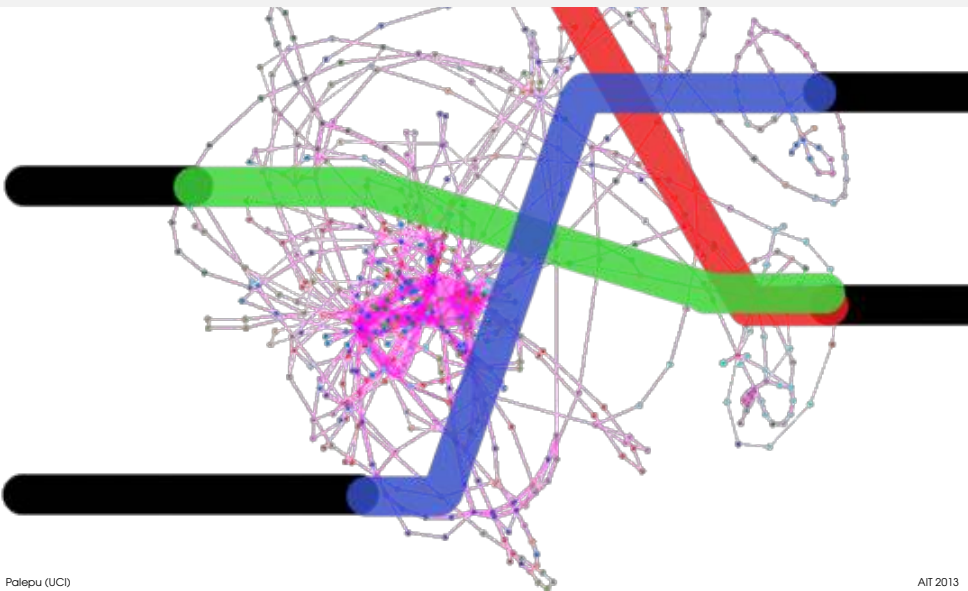
What are my research questions?

- How does software behavior look like?
- How are instructions in software related to each other?
- To what extent are instructions related to each other?

How does software behavior look like?



How & to what extent are instructions related to each other?



What is a Ph.D. like, especially at UCI?



UCI is a great place for Engineering ...



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Dedicated School for Information and Computer Science



Known for Machine Learning, Software Engineering, Human Computer Interaction



Irvine?!?

Irvine, California.

- Orange County, Southern California.
- 5 miles from Disney Land!
- 1 hour car ride from L.A.
- 1 hour flight from San Fransisco.
- FYI ... Safest city in the U.S. of A.

Irvine and UCI are beautiful ...



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The Nightlife is not too bad ...



The Food ain't bad either ...



The Food ain't bad either ...



You get to travel the world



Zurich, Switzerland



Zurich, Switzerland



Zurich, Switzerland



San Francisco, CA



San Fransisco, CA



San Francisco, CA



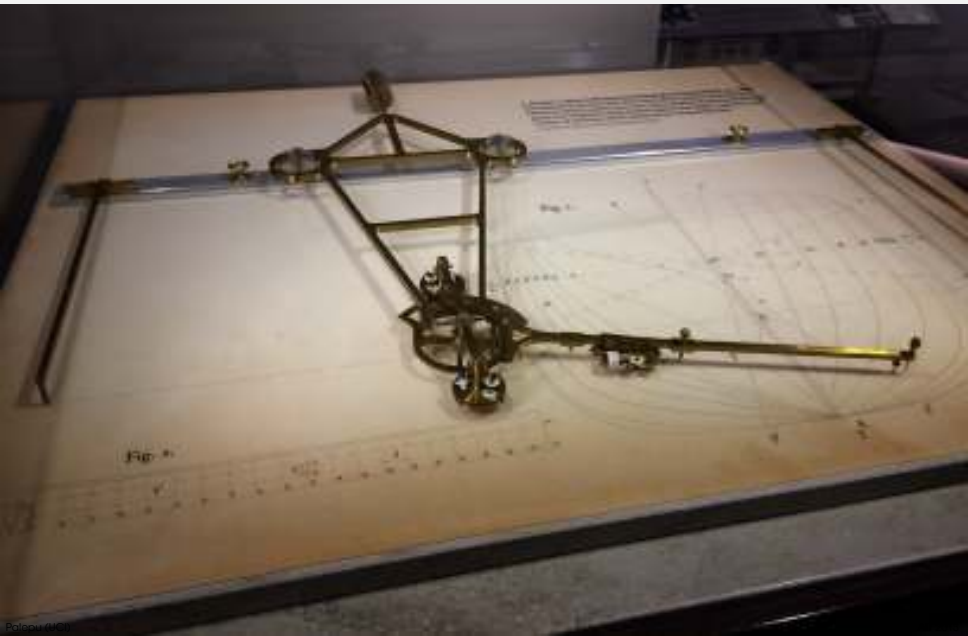
Computer History Museum, Silicon Valley, CA



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Computer History Museum, Silicon Valley, CA



It is Hard Work!



It is Hard Work!

```

class.forName(owner).
get Field(fieldName). getObject
(object);
Object = new object;
// TODO - handle primitives and BREAK.

```

```

O { { Owner, fieldName-Type } { Owner, fieldName-Type

```

```

List = { O,

```

```

Owner, fieldName-Type,

```

```

Owner, fieldName-Type }

```

```

int length = list.size();

```

```

if (list.get(0) == null) {

```

```

    object = objectArray[list.get(0).intValue()];

```

```

} else if (list.get(0) instanceof String) {

```

```

    object = class.forName(owner).get Field

```

```

} else { throw RuntimeException("none"); }

```

```

for (int i = 1; i < length; i++) {

```

```

    String item = list.get(i);

```

```

    String owner = item.split("[.]"')[0];

```

```

    String fieldName = item.split("[.]")[1];

```

```

    String Type = item.split("[.]")[2];

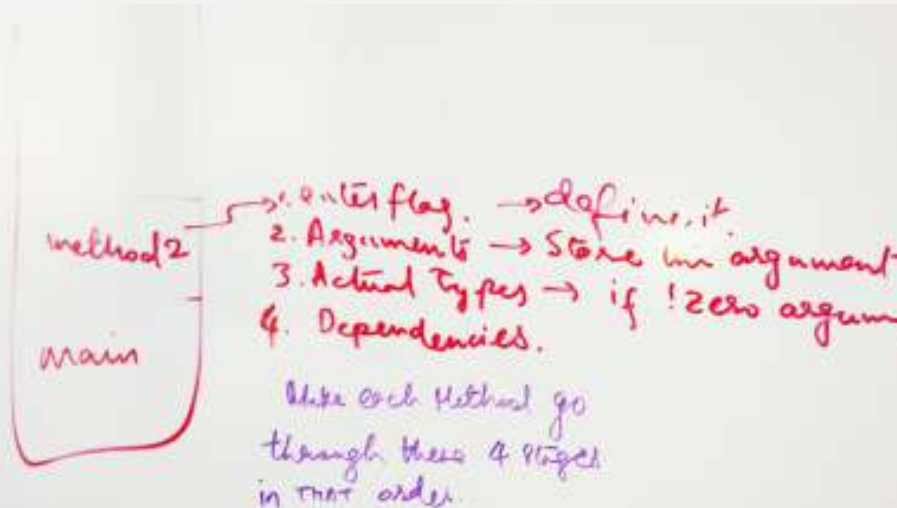
```

NOTICE



REGROUP

It is Hard Work!



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Pro Main
Testers:
Ant.

x Local Variable
1 - Local
2 - Global

x Parameter

x Variable

The persistent
data in the memory
model/dataset
will bubble up.
given that if we don't
we redefined
often.

```

1  a = 1
2  b = 2
3  if (1 == a) {
4      c = a;
5      } else {
6      c = b;
7      }
8  print(c)
  
```

Method Instance ?



"And" for Fun Out
"Or" for Fun In

• Reflects in the label
- Not labels - we not unique
- Employers have unique

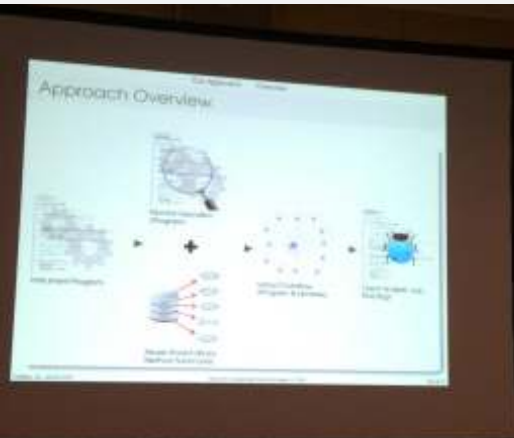
It is Hard Work!

	Deadline	Due Date
ICSE (reg)	Aug 17	Nov 27
ICSE	Sept 17	Dec 14
ICSE (short)	Nov 2	Jan 7/
ISSTA	Jan 23	May 6
ICSE	Feb 16/17	Apr 23?
ASE	Feb 16/17	June 28?
ICSE	Mar 16?	June 18?
ICSE	Apr 16?	June 20?
ASE (short)	May 1?	June 22?
FSE (short)	June 28?	July 20?
FSE (short)	June 28?	Aug 20?

It is Hard Work!



It is Rewarding!



Keep in touch



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