# The State of Al Investment - 2019

Joseph Wei, Venture Partner, Skychee Ventures Joseph.Wei@skychee.ventures www.linkedin.com/in/josephwei

Sep. 23, 2019

# Topics

- Speaker background
- Global Landscape for AI
- Al Value Chain
- VC funding history and trend
- What is driving investment in Al?
- Are we in a bubble?
- Final thoughts

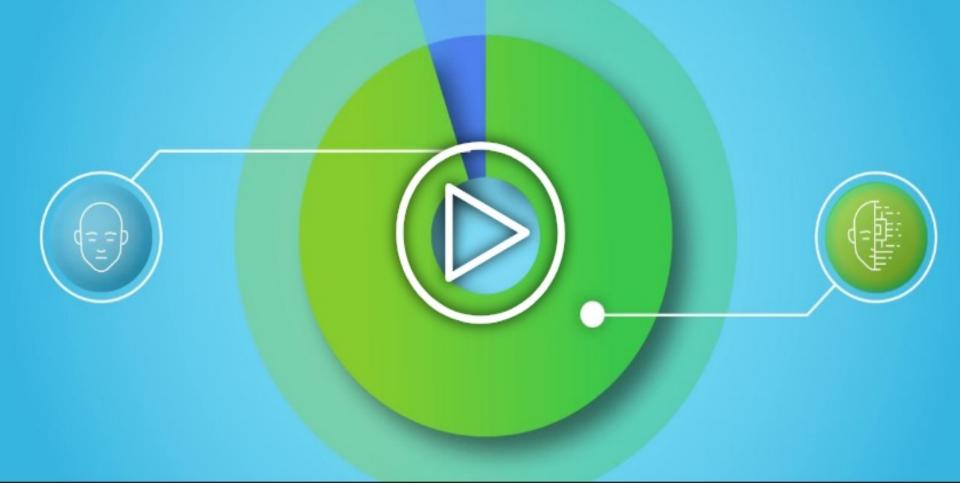
# **Speaker Background**



- 35 yrs corporate executive at DEC and SGI (both acquired by HP), NEC, and Inventec
- Venture Partner of Skychee Ventures
- Founding Partner of Lab360 Incubator (acquired by Heuristic Capital)
- Mentor



## Deloitte Insights | Future in the balance? How countries are pursuing an AI advantage



# **AI Value Chain**

By Best Practice Al Ltd



# Historical VC Investment since 1990's

s MoneyTree™ Report <sup>ит</sup>р*w*с tound Q1 1995 - Q2 2019



#### Amount Invested

Pw

1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1995 Total	1996 Total	1997 Total	1998 Total	1999 Total	2000 Total	2001 Total	2002 Total	2003 Total	2004 Total	2005 Total	2006 Total	2007 Total	2008 Total
\$1,538	\$2,370	\$3,114	\$4,518	\$9,021	\$21,110	\$7,153	\$2,450	\$2,123	\$3,125	\$3,438	\$4,291	\$5,704	\$5,354
\$2,925	\$3,506	\$4,234	\$5,778	\$14,099	\$33,984	\$13,699	\$3,876	\$3,391	\$5,770	\$4,084	\$6,004	\$7,167	\$7,676
\$4	\$965	5 \$1,771	\$2,418	\$7,648	\$15,627	\$9,415	\$3,270	\$2,720	\$3,667	\$3,314	\$4,606	\$5,793	\$6,392
\$1,087	\$1,358	\$1,365	5 <b>\$1,4</b> 65	\$3,707	\$9,064	\$4,764	\$1,856	i <b>\$1,44</b> 4	\$2,652	\$1,784	\$2,132	\$3,199	\$3,203
\$6	\$110	\$315	5 <b>\$4</b> 83	\$831	\$1,647	\$1,328	3 \$781	\$812	\$671	\$964	\$1,408	\$2,186	\$2,407
\$20	\$0	\$0	\$0	\$0	\$68	3 \$21	\$12	2 \$0	\$16	\$234	\$85	5 <b>\$1</b> 50	\$287
\$1,042	\$962	\$936	\$963	\$1,679	\$1,751	\$513	3 \$45	5 \$41	\$174	\$84	\$123	\$235	i <b>\$</b> 213
\$20	\$0	\$0	\$25	\$182	\$170	\$2	2 \$54	\$41	\$859	\$220	\$77	\$385	5 \$647
\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$23	\$15	i \$31	\$159	\$21	\$49	\$66
\$769	\$1,652	\$2,486	\$7,877	\$23,583	\$36,419	\$13,767	\$3,417	\$6,499	\$6,424	\$5,881	\$7,744	\$6,673	\$3,327
\$7,411	\$10,923	\$14,221	\$23,527	\$60,750	\$119,840	\$50,662	2 <b>\$1</b> 5,784	\$17,086	\$23,389	\$20,162	\$26,491	\$31,541	\$29,572
	1995 Total \$1,538 \$2,925 \$4 \$1,087 \$6 \$20 \$1,042 \$20 \$0 \$0 \$769	1995 Total 1996 Total   \$1,538 \$2,370   \$2,925 \$3,506   \$4 \$965   \$1,087 \$1,358   \$6 \$110   \$20 \$0   \$1,042 \$962   \$1,042 \$962   \$20 \$0   \$1,042 \$962   \$20 \$0   \$1,042 \$962   \$20 \$0   \$20 \$0   \$1,042 \$962   \$20 \$0   \$20 \$0   \$1,042 \$962   \$20 \$0   \$20 \$0   \$20 \$0   \$20 \$0   \$20 \$0   \$20 \$0   \$20 \$0   \$20 \$0   \$20 \$0   \$20 \$0   \$20 \$0   \$20 \$0	1995 Total 1996 Total 1997 Total   \$1,538 \$2,370 \$3,114   \$2,925 \$3,506 \$4,234   \$4 \$965 \$1,771   \$1,087 \$1,358 \$1,365   \$6 \$110 \$315   \$20 \$0 \$0   \$1,042 \$962 \$936   \$20 \$0 \$0   \$1,042 \$962 \$936   \$20 \$0 \$0   \$1,042 \$962 \$936   \$20 \$0 \$0   \$1,042 \$962 \$936   \$20 \$0 \$0   \$1,042 \$962 \$936   \$20 \$0 \$0   \$1,042 \$962 \$936   \$20 \$0 \$0   \$20 \$0 \$0   \$20 \$0 \$0   \$20 \$0 \$0   \$20 \$0 \$0   \$20 \$0 \$0   <	1995 Total1996 Total1997 Total1998 Total\$1,538\$2,370\$3,114\$4,518\$2,925\$3,506\$4,234\$5,778\$4\$965\$1,771\$2,418\$1,087\$1,358\$1,365\$1,465\$6\$110\$315\$483\$20\$0\$0\$0\$1,042\$962\$936\$963\$20\$0\$0\$25\$0\$0\$0\$0\$1,042\$962\$936\$963\$20\$0\$0\$0\$1,042\$962\$936\$963\$20\$0\$0\$0\$21\$50\$0\$0\$22\$962\$936\$963\$23\$0\$0\$0\$24\$1,652\$2,486\$7,877	1995 Total1996 Total1997 Total1998 Total1999 Total\$1,538\$2,370\$3,114\$4,518\$9,021\$2,925\$3,506\$4,234\$5,778\$14,099\$4\$965\$1,771\$2,418\$7,648\$1,087\$1,358\$1,365\$1,465\$3,707\$6\$110\$315\$483\$831\$20\$0\$0\$0\$0\$1,042\$962\$936\$963\$1,679\$20\$0\$0\$0\$0\$1,042\$962\$936\$963\$1,679\$20\$0\$0\$0\$0\$1,042\$962\$936\$963\$1,679\$20\$0\$0\$0\$0\$0\$1,042\$962\$936\$963\$1,679\$20\$0\$0\$0\$0\$20\$0\$0\$0\$0\$1,042\$962\$936\$963\$1,679\$20\$0\$0\$0\$0\$1,042\$962\$936\$963\$1,679\$20\$0\$0\$0\$0\$0\$10\$1,652\$2,486\$7,877\$23,583	1995 Total1996 Total1997 Total1998 Total1999 Total2000 Total\$1,538\$2,370\$3,114\$4,518\$9,021\$21,110\$2,925\$3,506\$4,234\$5,778\$14,099\$33,984\$4\$965\$1,771\$2,418\$7,648\$15,627\$1,087\$1,358\$1,365\$1,465\$3,707\$9,064\$6\$110\$315\$483\$831\$1,647\$20\$0\$0\$0\$0\$68\$1,042\$962\$936\$963\$1,679\$1,751\$20\$0\$0\$25\$182\$170\$20\$0\$0\$0\$0\$0\$1,042\$962\$936\$963\$1,679\$1,751\$20\$0\$0\$0\$0\$0\$1,042\$962\$936\$963\$1,679\$1,751\$20\$0\$0\$0\$0\$0\$1,042\$962\$936\$963\$1,679\$1,751\$20\$0\$0\$0\$0\$0\$0\$1,042\$962\$936\$25\$182\$170\$20\$0\$0\$0\$0\$0\$0\$1,052\$2,486\$7,877\$23,583\$36,419	1995 Total1996 Total1997 Total1998 Total1999 Total2000 Total2001 Total\$1,538\$2,370\$3,114\$4,518\$9,021\$21,110\$7,153\$2,925\$3,506\$4,234\$5,778\$14,099\$33,984\$13,699\$4\$965\$1,771\$2,418\$7,648\$15,627\$9,415\$1,087\$1,358\$1,365\$1,465\$3,707\$9,064\$4,764\$6\$110\$315\$483\$831\$1,647\$1,328\$20\$0\$0\$0\$0\$68\$211\$1,042\$962\$936\$963\$1,679\$1,751\$513\$20\$0\$0\$25\$182\$170\$2\$0\$0\$0\$0\$0\$0\$0\$769\$1,652\$2,486\$7,877\$23,583\$26,419\$13,767	1995 Total1996 Total1997 Total1998 Total1999 Total2001 Total2001 Total2002 Total\$1,538\$2,370\$3,114\$4,518\$9,021\$21,110\$7,153\$2,450\$2,925\$3,506\$4,234\$5,778\$14,099\$33,984\$13,699\$3,876\$4\$965\$1,771\$2,418\$7,648\$15,627\$9,415\$3,270\$1,087\$1,358\$13,655\$1,465\$3,707\$9,064\$4,764\$1,856\$6\$110\$315\$483\$831\$1,647\$1,328\$781\$20\$0\$0\$0\$0\$68\$21\$122\$1,042\$962\$936\$963\$1,679\$1,751\$513\$455\$20\$0\$0\$0\$0\$0\$0\$2\$54\$20\$0\$0\$0\$0\$0\$2\$54\$20\$0\$0\$0\$0\$0\$2\$54\$20\$0\$0\$0\$0\$0\$2\$54\$20\$0\$0\$0\$0\$0\$0\$2\$1,042\$962\$936\$963\$1,679\$1,751\$513\$45\$20\$0\$0\$0\$0\$0\$0\$2\$54\$20\$0\$0\$0\$0\$0\$0\$23\$1,042\$962\$2,486\$7,877\$23,583\$46,419\$13,767\$3,417\$21\$10\$10\$10\$10 <td>1995 Total1996 Total1997 Total1998 Total1999 Total2000 Total2001 Total2002 Total2003 Total\$1,538\$2,370\$3,114\$4,518\$9,021\$21,110\$7,153\$2,450\$2,123\$2,925\$3,506\$4,234\$5,778\$14,099\$33,984\$13,699\$3,876\$3,391\$4\$965\$1,771\$2,418\$7,648\$15,627\$9,415\$3,270\$2,720\$1,087\$1,358\$1,365\$1,465\$3,707\$9,064\$4,764\$1,856\$1,444\$6\$110\$315\$483\$831\$1,647\$1,328\$781\$812\$20\$0\$0\$0\$68\$21\$12\$0\$1,042\$962\$936\$963\$1,679\$1,751\$513\$445\$20\$0\$0\$2\$182\$170\$2\$54\$1,042\$962\$936\$963\$1,679\$1,751\$513\$45\$20\$0\$0\$2\$162\$10\$44\$20\$0\$0\$2\$162\$1,751\$513\$45\$20\$0\$0\$0\$0\$0\$0\$0\$0\$1,042\$962\$936\$1,679\$1,751\$513\$45\$41\$20\$0\$0\$0\$0\$0\$0\$0\$2\$1,042\$962\$936\$1,679\$1,751\$513\$45\$41\$20\$0\$0\$0\$0</td> <td>1995 Total1996 Total1997 Total1998 Total1999 Total2000 Total2001 Total2002 Total2003 Total2004 Total\$1,538\$2,370\$3,114\$4,518\$9,021\$21,110\$7,153\$2,450\$2,123\$3,125\$2,925\$3,506\$4,234\$5,778\$14,099\$33,984\$13,699\$3,876\$3,391\$5,770\$4\$965\$1,771\$2,418\$7,648\$15,627\$9,415\$3,270\$2,720\$3,667\$1,087\$13,58\$1,365\$1,465\$3,707\$9,064\$4,764\$1,856\$1,444\$2,652\$6\$110\$315\$483\$831\$1,647\$1,328\$781\$812\$671\$20\$0\$0\$0\$68\$221\$12\$0\$166\$1,042\$962\$936\$963\$1,679\$1,751\$513\$455\$441\$174\$20\$0\$0\$0\$16\$2170\$22\$54\$441\$859\$1,042\$962\$936\$963\$1,679\$1,751\$513\$455\$441\$174\$20\$0\$0\$0\$16\$2170\$22\$54\$441\$859\$1,042\$962\$936\$963\$1,679\$1,751\$513\$455\$441\$859\$1,042\$962\$936\$963\$1,679\$1,751\$513\$455\$441\$859\$1,042\$962\$936\$963\$1,679\$1,751\$513\$45</td> <td>1995 Total1996 Total1997 Total1998 Total1999 Total2000 Total2001 Total2002 Total2003 Total2004 Total2005 Total\$1,538\$2,370\$3,114\$4,518\$9,021\$21,110\$7,153\$2,450\$2,123\$3,125\$3,438\$2,925\$3,506\$4,234\$5,778\$14,099\$33,984\$13,699\$3,876\$3,391\$5,770\$4,084\$4\$965\$1,771\$2,418\$7,648\$15,627\$9,415\$3,270\$2,720\$3,667\$3,314\$1,087\$1,358\$1,365\$1,465\$3,707\$9,064\$4,764\$1,856\$1,444\$2,652\$1,784\$6\$110\$315\$483\$831\$1,647\$1,328\$781\$812\$671\$964\$20\$0\$0\$0\$68\$21\$12\$0\$16\$234\$1,042\$962\$936\$963\$1,679\$1,751\$513\$45\$41\$174\$84\$20\$0\$0\$0\$68\$21\$12\$0\$16\$234\$1,042\$962\$936\$963\$1,679\$1,751\$513\$45\$41\$174\$84\$20\$0\$0\$2\$167\$2,554\$41\$859\$220\$0\$0\$0\$0\$0\$0\$0\$2\$54\$41\$859\$1,042\$962\$936\$167\$1,652\$1,751\$513\$45\$41\$859\$20&lt;</td> <td>1995 Total1996 Total1997 Total1998 Total1999 Total2000 Total2001 Total2002 Total2003 Total2004 Total2005 Total2006 Total\$1,538\$2,370\$3,114\$4,518\$9,021\$21,110\$7,153\$2,450\$2,123\$3,125\$3,438\$4,291\$2,925\$3,506\$4,234\$5,778\$14,099\$33,984\$13,699\$3,876\$3,391\$5,770\$4,084\$6,004\$4\$965\$1,771\$2,418\$7,648\$15,627\$9,415\$3,270\$2,720\$3,667\$3,314\$4,606\$1,087\$1,358\$1,365\$1,465\$3,707\$9,064\$4,764\$1,856\$1,444\$2,652\$1,784\$2,132\$6\$110\$315\$483\$831\$1,647\$1,328\$7,81\$812\$671\$964\$1,408\$20\$0\$0\$0\$68\$21\$13\$41\$2,652\$1,784\$2,132\$1,042\$962\$936\$963\$1,679\$1,513\$481\$1,464\$2,652\$1,784\$2,132\$1,042\$962\$936\$9,63\$1,679\$1,751\$513\$45\$41\$174\$84\$123\$1,042\$962\$936\$963\$1,679\$1,751\$513\$45\$41\$174\$84\$123\$20\$0\$0\$0\$6\$217\$513\$45\$41\$174\$84\$123\$20\$0\$0\$0\$0\$0<t< td=""><td>1995 Total1996 Total1998 Total1999 Total2000 Total2001 Total2002 Total2003 Total2004 Total2005 Total2006 Total2007 Total\$1,538\$2,370\$3,114\$4,518\$9,021\$21,110\$7,153\$2,450\$2,123\$3,125\$3,438\$4,291\$5,774\$2,925\$3,506\$4,234\$5,778\$14,099\$33,984\$13,699\$3,876\$3,391\$5,770\$4,084\$6,004\$7,167\$4\$965\$1,771\$2,418\$7,648\$15,627\$9,415\$3,270\$2,720\$3,667\$3,314\$4,606\$5,793\$1,087\$1,358\$13,65\$1,465\$3,707\$9,064\$4,764\$1,856\$1,444\$2,652\$1,784\$2,132\$3,199\$6\$110\$315\$483\$831\$1,647\$1,328\$781\$812\$671\$964\$1,408\$2,186\$20\$0\$0\$0\$0\$68\$21\$12\$0\$16\$234\$85\$1,609\$1,042\$962\$936\$963\$1,679\$1,751\$513\$455\$41\$174\$84\$123\$235\$1,042\$962\$936\$963\$1,679\$1,751\$513\$455\$41\$174\$84\$123\$235\$1,042\$962\$936\$963\$1,679\$1,751\$513\$455\$41\$174\$84\$123\$235\$1,042\$962\$936\$963\$1,679\$1,751</td></t<></td>	1995 Total1996 Total1997 Total1998 Total1999 Total2000 Total2001 Total2002 Total2003 Total\$1,538\$2,370\$3,114\$4,518\$9,021\$21,110\$7,153\$2,450\$2,123\$2,925\$3,506\$4,234\$5,778\$14,099\$33,984\$13,699\$3,876\$3,391\$4\$965\$1,771\$2,418\$7,648\$15,627\$9,415\$3,270\$2,720\$1,087\$1,358\$1,365\$1,465\$3,707\$9,064\$4,764\$1,856\$1,444\$6\$110\$315\$483\$831\$1,647\$1,328\$781\$812\$20\$0\$0\$0\$68\$21\$12\$0\$1,042\$962\$936\$963\$1,679\$1,751\$513\$445\$20\$0\$0\$2\$182\$170\$2\$54\$1,042\$962\$936\$963\$1,679\$1,751\$513\$45\$20\$0\$0\$2\$162\$10\$44\$20\$0\$0\$2\$162\$1,751\$513\$45\$20\$0\$0\$0\$0\$0\$0\$0\$0\$1,042\$962\$936\$1,679\$1,751\$513\$45\$41\$20\$0\$0\$0\$0\$0\$0\$0\$2\$1,042\$962\$936\$1,679\$1,751\$513\$45\$41\$20\$0\$0\$0\$0	1995 Total1996 Total1997 Total1998 Total1999 Total2000 Total2001 Total2002 Total2003 Total2004 Total\$1,538\$2,370\$3,114\$4,518\$9,021\$21,110\$7,153\$2,450\$2,123\$3,125\$2,925\$3,506\$4,234\$5,778\$14,099\$33,984\$13,699\$3,876\$3,391\$5,770\$4\$965\$1,771\$2,418\$7,648\$15,627\$9,415\$3,270\$2,720\$3,667\$1,087\$13,58\$1,365\$1,465\$3,707\$9,064\$4,764\$1,856\$1,444\$2,652\$6\$110\$315\$483\$831\$1,647\$1,328\$781\$812\$671\$20\$0\$0\$0\$68\$221\$12\$0\$166\$1,042\$962\$936\$963\$1,679\$1,751\$513\$455\$441\$174\$20\$0\$0\$0\$16\$2170\$22\$54\$441\$859\$1,042\$962\$936\$963\$1,679\$1,751\$513\$455\$441\$174\$20\$0\$0\$0\$16\$2170\$22\$54\$441\$859\$1,042\$962\$936\$963\$1,679\$1,751\$513\$455\$441\$859\$1,042\$962\$936\$963\$1,679\$1,751\$513\$455\$441\$859\$1,042\$962\$936\$963\$1,679\$1,751\$513\$45	1995 Total1996 Total1997 Total1998 Total1999 Total2000 Total2001 Total2002 Total2003 Total2004 Total2005 Total\$1,538\$2,370\$3,114\$4,518\$9,021\$21,110\$7,153\$2,450\$2,123\$3,125\$3,438\$2,925\$3,506\$4,234\$5,778\$14,099\$33,984\$13,699\$3,876\$3,391\$5,770\$4,084\$4\$965\$1,771\$2,418\$7,648\$15,627\$9,415\$3,270\$2,720\$3,667\$3,314\$1,087\$1,358\$1,365\$1,465\$3,707\$9,064\$4,764\$1,856\$1,444\$2,652\$1,784\$6\$110\$315\$483\$831\$1,647\$1,328\$781\$812\$671\$964\$20\$0\$0\$0\$68\$21\$12\$0\$16\$234\$1,042\$962\$936\$963\$1,679\$1,751\$513\$45\$41\$174\$84\$20\$0\$0\$0\$68\$21\$12\$0\$16\$234\$1,042\$962\$936\$963\$1,679\$1,751\$513\$45\$41\$174\$84\$20\$0\$0\$2\$167\$2,554\$41\$859\$220\$0\$0\$0\$0\$0\$0\$0\$2\$54\$41\$859\$1,042\$962\$936\$167\$1,652\$1,751\$513\$45\$41\$859\$20<	1995 Total1996 Total1997 Total1998 Total1999 Total2000 Total2001 Total2002 Total2003 Total2004 Total2005 Total2006 Total\$1,538\$2,370\$3,114\$4,518\$9,021\$21,110\$7,153\$2,450\$2,123\$3,125\$3,438\$4,291\$2,925\$3,506\$4,234\$5,778\$14,099\$33,984\$13,699\$3,876\$3,391\$5,770\$4,084\$6,004\$4\$965\$1,771\$2,418\$7,648\$15,627\$9,415\$3,270\$2,720\$3,667\$3,314\$4,606\$1,087\$1,358\$1,365\$1,465\$3,707\$9,064\$4,764\$1,856\$1,444\$2,652\$1,784\$2,132\$6\$110\$315\$483\$831\$1,647\$1,328\$7,81\$812\$671\$964\$1,408\$20\$0\$0\$0\$68\$21\$13\$41\$2,652\$1,784\$2,132\$1,042\$962\$936\$963\$1,679\$1,513\$481\$1,464\$2,652\$1,784\$2,132\$1,042\$962\$936\$9,63\$1,679\$1,751\$513\$45\$41\$174\$84\$123\$1,042\$962\$936\$963\$1,679\$1,751\$513\$45\$41\$174\$84\$123\$20\$0\$0\$0\$6\$217\$513\$45\$41\$174\$84\$123\$20\$0\$0\$0\$0\$0 <t< td=""><td>1995 Total1996 Total1998 Total1999 Total2000 Total2001 Total2002 Total2003 Total2004 Total2005 Total2006 Total2007 Total\$1,538\$2,370\$3,114\$4,518\$9,021\$21,110\$7,153\$2,450\$2,123\$3,125\$3,438\$4,291\$5,774\$2,925\$3,506\$4,234\$5,778\$14,099\$33,984\$13,699\$3,876\$3,391\$5,770\$4,084\$6,004\$7,167\$4\$965\$1,771\$2,418\$7,648\$15,627\$9,415\$3,270\$2,720\$3,667\$3,314\$4,606\$5,793\$1,087\$1,358\$13,65\$1,465\$3,707\$9,064\$4,764\$1,856\$1,444\$2,652\$1,784\$2,132\$3,199\$6\$110\$315\$483\$831\$1,647\$1,328\$781\$812\$671\$964\$1,408\$2,186\$20\$0\$0\$0\$0\$68\$21\$12\$0\$16\$234\$85\$1,609\$1,042\$962\$936\$963\$1,679\$1,751\$513\$455\$41\$174\$84\$123\$235\$1,042\$962\$936\$963\$1,679\$1,751\$513\$455\$41\$174\$84\$123\$235\$1,042\$962\$936\$963\$1,679\$1,751\$513\$455\$41\$174\$84\$123\$235\$1,042\$962\$936\$963\$1,679\$1,751</td></t<>	1995 Total1996 Total1998 Total1999 Total2000 Total2001 Total2002 Total2003 Total2004 Total2005 Total2006 Total2007 Total\$1,538\$2,370\$3,114\$4,518\$9,021\$21,110\$7,153\$2,450\$2,123\$3,125\$3,438\$4,291\$5,774\$2,925\$3,506\$4,234\$5,778\$14,099\$33,984\$13,699\$3,876\$3,391\$5,770\$4,084\$6,004\$7,167\$4\$965\$1,771\$2,418\$7,648\$15,627\$9,415\$3,270\$2,720\$3,667\$3,314\$4,606\$5,793\$1,087\$1,358\$13,65\$1,465\$3,707\$9,064\$4,764\$1,856\$1,444\$2,652\$1,784\$2,132\$3,199\$6\$110\$315\$483\$831\$1,647\$1,328\$781\$812\$671\$964\$1,408\$2,186\$20\$0\$0\$0\$0\$68\$21\$12\$0\$16\$234\$85\$1,609\$1,042\$962\$936\$963\$1,679\$1,751\$513\$455\$41\$174\$84\$123\$235\$1,042\$962\$936\$963\$1,679\$1,751\$513\$455\$41\$174\$84\$123\$235\$1,042\$962\$936\$963\$1,679\$1,751\$513\$455\$41\$174\$84\$123\$235\$1,042\$962\$936\$963\$1,679\$1,751

#### Number of Deals

Round	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Kouna	1995 Total	1996 Total	1997 Total	1998 Total	1999 Total	2000 Total	2001 Total	2002 Total	2003 Total	2004 Total	2005 Total	2006 Total	2007 Total	2008 Total
Series A	441	628	755	807	1,453	2,361	1,018	279	309	422	464	626	810	848
Series B	614	724	817	864	1,231	2,109	1,257	292	313	392	365	474	569	600
Series C	3	150	268	368	535	748	689	205	216	239	217	273	326	352
Series D	178	217	213	184	228	355	281	90	98	141	110	117	147	154
Series E+	1	29	51	82	55	55	69	48	53	46	50	79	88	87
Growth Equity	1	0	0	1	0	3	1	2	1	2	4	5	12	18
Seed / Angel	379	412	420	473	577	530	221	28	42	78	88	165	261	295
Private Equity	1	1	0	2	5	4	4	3	4	5	9	7	8	12
Convertible Note	0	0	0	0	0	0	0	9	10	12	24	20	24	36
Other	155	306	487	1,028	1,634	2,149	1,213	407	587	553	561	593	556	477
Grand Total	1,773	2,467	3,011	3,809	5,718	8,314	4,753	1,363	1,633	1,890	1,892	2,359	2,801	2,879



PwC/CB Insights MoneyTree™ Report Investments by Round Q1 1995 - Q2 2019



#### Amount Invested

Round	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018		2019	)
Kouliu	2009 Total	2010 Total	2011 Total	2012 Total	2013 Total	2014 Total	2015 Total	2016 Total	2017 Total	2018 Total	Qtr 1	Qtr 2	2019 Total
Series A	\$3,876	\$3,875	\$6,000	\$5,654	\$6,934	\$8,636	\$10,436	\$11,022	\$11,547	\$16,402	\$3,808	\$3,839	\$7,647
Series B	\$4,690	\$5,986	\$6,944	\$5,487	\$7,146	\$11,243	\$13,902	\$10,760	\$14,622	\$17,896	\$5,441	\$5,465	\$10,906
Series C	\$4,099	\$5,147	\$6,151	\$6,107	\$6,112	\$9,938	\$10,370	\$10,407	\$11,302	\$15,708	\$2,945	\$4,068	\$7,013
Series D	\$2,990	\$3,803	\$5,094	\$5,544	\$4,247	\$8,498	\$8,057	\$5,400	\$8,277	\$13,186	\$3,274	\$4,045	\$7,319
Series E+	\$3,030	\$2,057	\$6,361	\$3,893	\$5,397	\$10,554	\$20,728	\$13,086	\$15,638	\$18,507	\$6,458	\$6,281	\$12,739
Growth Equity	\$681	\$1,210	\$1,915	\$1,463	\$1,024	\$2,609	\$3,437	\$1,421	\$2,440	\$1,490	\$904	\$221	\$1,125
Seed / Angel	\$390	\$537	\$893	\$1,277	\$1,672	\$2,345	\$2,586	\$2,693	\$3,158	\$3,517	\$961	\$642	\$1,603
Private Equity	\$204	\$552	\$809	\$1,425	<b>\$1,4</b> 38	\$2,881	\$2,439	\$2,778	\$2,697	\$3,714	\$428	\$192	\$620
Convertible Note	\$19	\$80	\$155	\$316	\$315	\$352	\$2,259	\$548	\$824	\$1,758	\$151	\$59	\$210
Other	\$1,845	\$2,953	\$2,140	\$1,982	\$2,361	\$3,875	\$4,047	\$5,116	\$6,337	\$24.002	\$1,818	\$3,935	\$5.753
Grand Total	\$21,824	\$26,200	\$36,462	\$33,148	\$36,646	\$60,931	\$78,261	\$63,231	\$76,842	\$116,180	\$26,188	\$28,747	\$54,935

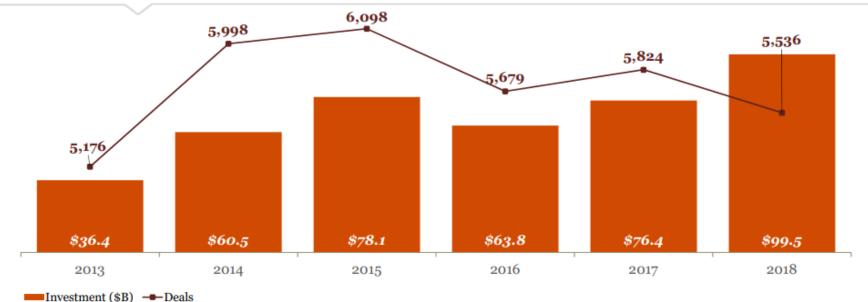
#### Number of Deals

Round	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018		2019	
Kouliu	2009 Total	2010 Total	2011 Total	2012 Total	2013 Total	2014 Total	2015 Total	2016 Total	2017 Total	2018 Total	Qtr 1	Qtr 2	2019 Total
Series A	680	737	972	957	1,127	1,233	1,268	1,183	1,251	1,266	326	330	656
Series B	530	568	630	608	687	744	751	636	711	842	181	229	410
Series C	347	400	407	407	389	437	405	365	395	441	108	113	221
Series D	190	223	257	256	219	235	218	169	168	241	62	57	119
Series E+	131	129	172	188	196	225	223	154	193	196	50	60	110
Growth Equity	39	63	65	55	60	107	99	67	82	76	19	16	35
Seed / Angel	478	775	1,200	1,710	1,890	2,204	2,218	2,060	2,023	1,744	359	325	684
Private Equity	11	21	36	46	59	86	50	63	85	78	16	14	30
Convertible Note	22	43	79	201	198	238	276	290	257	269	39	39	78
Other	317	464	445	307	420	602	760	914	977	965	202	226	428
Grand Total	2,745	3,423	4,263	4,735	5,245	6,111	6,268	5,901	6,142	6,118	1,362	1,409	2,771

## Annual US financing trend

#### US annual funding hits \$99.5B amid falling deal activity

- Total annual funding in the US increased by 30% in 2018, as \$99.5B was invested across 5,536 deals.
- US deal activity fell to its lowest level since 2013, though later-stage mega-deals pushed annual funding to its highest level since 2000.

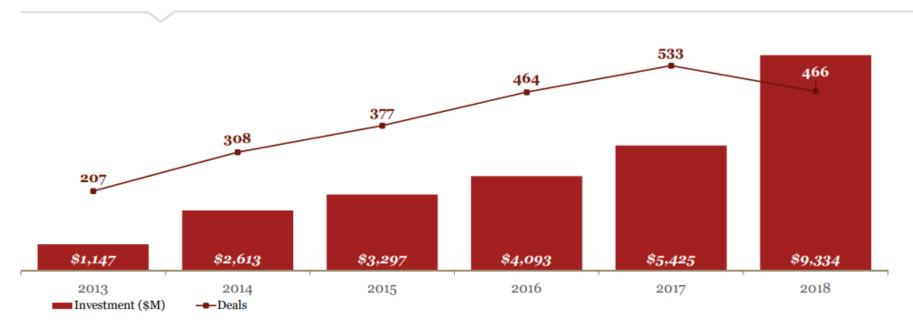


\_\_\_\_investment (\$b) = beaus

## AI: US annual funding

#### AI-related funding jumps sharply after increasing every year since 2013

- AI-related companies raised \$9.3B in 2018, a 72% increase compared to 2017.
- Deal activity dipped to 466 from 533 in 2017, after increasing for four years.

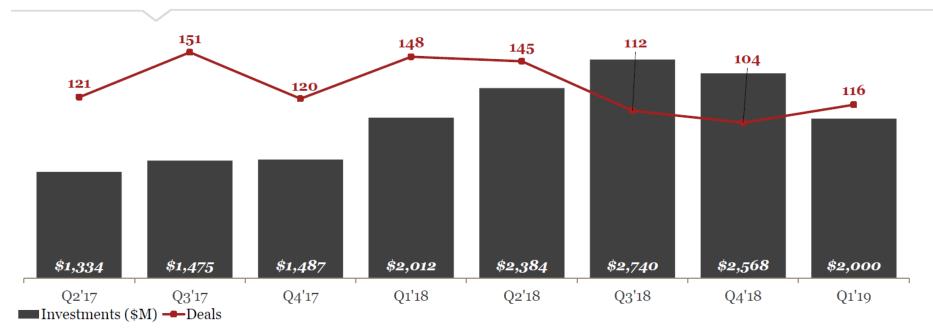


ŗ

## Artificial Intelligence: US funding over time

#### Artificial intelligence deal activity increased after three consecutive quarterly declines

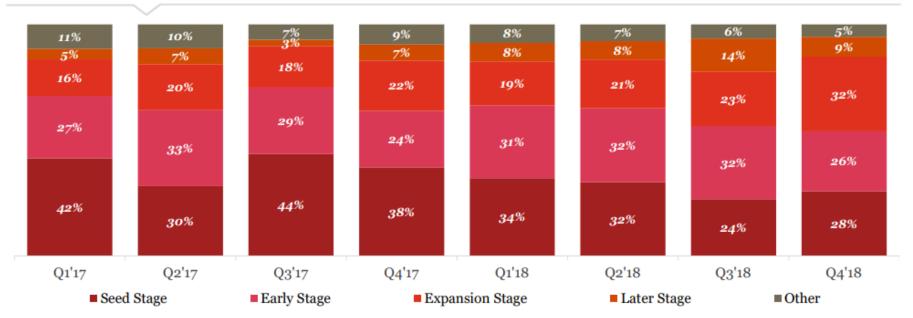
- Artificial intelligence deals increased in Q1'19 to 116 deals, up from 104 deals in Q4'18.
- While deals increased, funding dropped to \$2B in Q1'19. Close to half of all artificial intelligence funding for Q1'19 was driven by a \$940M investment in Nuro by SoftBank Group.



## AI: US deal share over time

#### Seed-stage deal activity among AI-related companies rises to 28%

- Seed-stage deal activity in the AI space rose in Q4'18 to 28%, compared to 24% in Q3'18.
- Expansion-stage deal activity jumped to 32%, from 23%.



Ļ

## AI: Top states by deals

1. CA

53 deals

2. MA

3. NY

4. **TX** 

4. WA

**10** deals

13 deals

\$247M Invested

3 deals

3 deals



۲I)

## AI: Largest US deals of Q4'18

Company	Location	Sector	Industry	Stage of Funding	\$ Value of Deal	Select Investors
Zymergen	Emeryville, CA	Software (non- internet / mobile)	Healthcare		\$400M	Data Collective, SoftBank Group, True Ventures, Two Sigma Ventures
Automation Anywhere	San Jose, CA	Software (non- internet / mobile)	Scientific, Engineering Software		\$300M	SoftBank Group
Tanium	Emeryville, CA	Software (non- internet / mobile)	Security Software		\$200M	Adage Capital Management, Baillie Gifford & Co., Wellington Management
ZipRecruiter	Santa Monica, CA	Internet	Internet Software	Y	\$156M	Institutional Venture Partners, Wellington Management
DataRobot	Boston, MA	Internet	Internet Software		\$100M	DFJ Growth Fund, Intel Capital, New Enterprise Associates
					Seed Stage	Early Stage Expansion Stage Later Stage

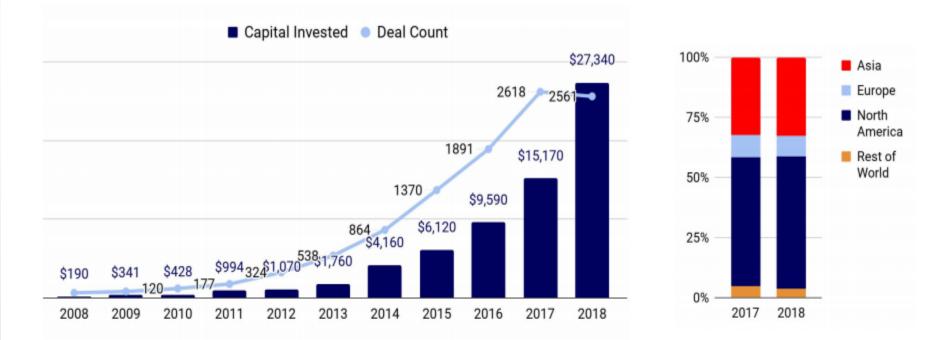
& Value

Stage of



## Global venture capital investments in AI themes grow at a clip to reach >\$27B/year

Almost 80% more capital invested in FY18 vs FY17 with North America leading the way at 55% market share.



## PitchBook.

## stateof.ai 2019

## Spotlight on companies we featured in last year's State of AI:



\$940M Series B led by SoftBank



\$1B Series D led by SB China Capital

AURORA \$530M Series B led by Sequoia Capital

**GRAPHCORE** \$200M Series D led by Sofina



- \$23M Series B led by Menlo Ventures
- AUTOMATION ANYWHERE \$500M Series A led by SoftBank

**AVIDBOTS \$24M** Series B led by True Ventures

Shift Technology \$60M Series C led by Bessemer



\$2.3B IPO at \$24B valuation

- VITUINIAN Series E led by Vituvian 20 \$500M Series B led by Grok Investments
  - SambaNova 🕨 \$150M Series B led by Intel Capital
  - **Z zymergen** \$400M Series C led by SoftBank
- GREYORANGE \$140M Series C led by Mithrill
  - Ui Path \$225M Series C led by CapitalG



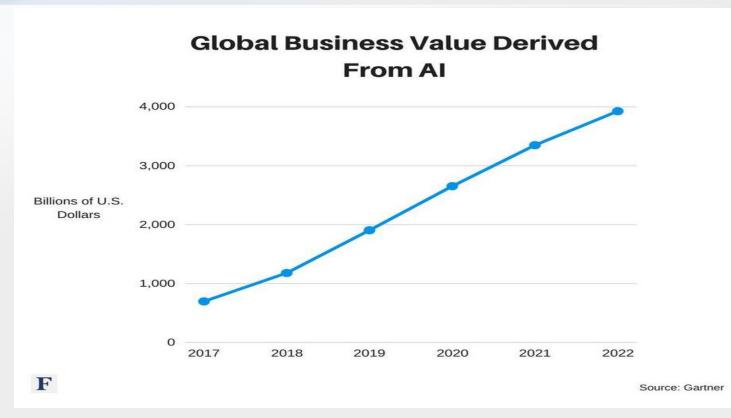
- Robotics \$600M Series B led by China Minsheng
- DataRobot \$100M Series D led by Cisco

CYLへNCE \$1.5B acquisition by Blackberry

## stateof.ai 2019

# What's driving Al investment?

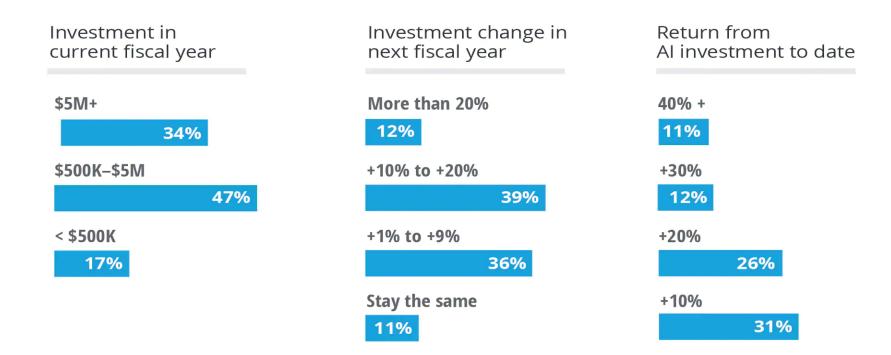
# **AI delivers Global Business Value**



Sept. 23, 2019

FIGURE 2

# Organizations are spending on AI technologies and seeing a return on their investment



Notes: Percentages may not total 100 percent due to not including all answer choices from all questions; all monetary amounts are given in US dollars.

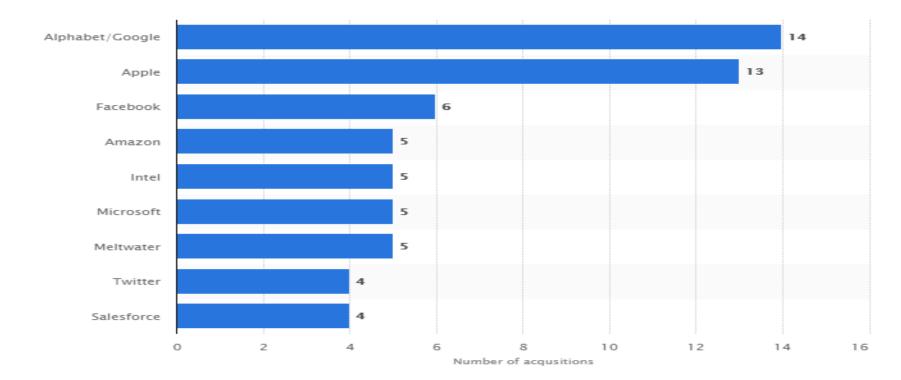
Source: Deloitte State of AI in the Enterprise survey, 2nd Edition, 2018.

Deloitte Insights | deloitte.com/insights

# **Availability of Funds**

- Many \$1 billion+ funds were created in 2018
  - Sequoia (\$8 billion)
  - Tiger Global (\$3.75 billion)
  - Bessemer Venture Partners (\$1.85 billion)
  - GGV Capital (\$1.36 billion)
- Fund Managers need to invest their funds and generate returns for their Limited Partners in 10 -12 years

## # of AI Startups acquisitions from 2010 - 2018



© Statista 2019 🍽

#### About this statistic

#### Sources: Fortune; CB Insights > Show source details

# Samples of acquisition of AI Startups







Sept. 23, 2019

THE MOST ACTIVE VC'S INVESTING IN AI RIGHT NOW





# Are We in Another Dotcom-Type Bubble?



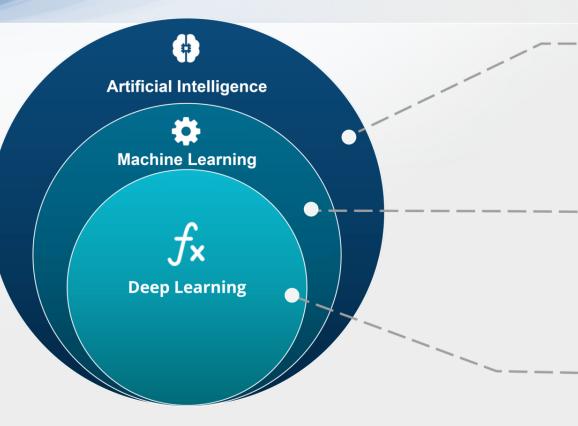
# Are we in a bubble?

- Yes in terms of valuation
  - Recent lackluster IPO by Uber, Lyft, etc. and the lowered valuation of WeWork are examples of a repeat of the dotcom era.
- No in terms of freezing in investment as the total amount of VC funding is still large as many new funds just raised new funding.
- In the past several years, some investment decisions were based on Fear Of Missing Out (FOMO), and not based on true technical and business merits. Therefore, early seed funding will be more difficult as VCs will now wait to see more customer tractions before investing

# **Final thoughts**

Al is just another new technology platform, startups need to understand where their product/service can add value and differentiate in order to succeed.

# Al vs. ML vs. DL



## **ARTIFICIAL INTELLIGENCE**

A technique which enables machines to mimic human behaviour

### **MACHINE LEARNING**

Subset of AI technique which use statistical methods to enable machines to improve with experience

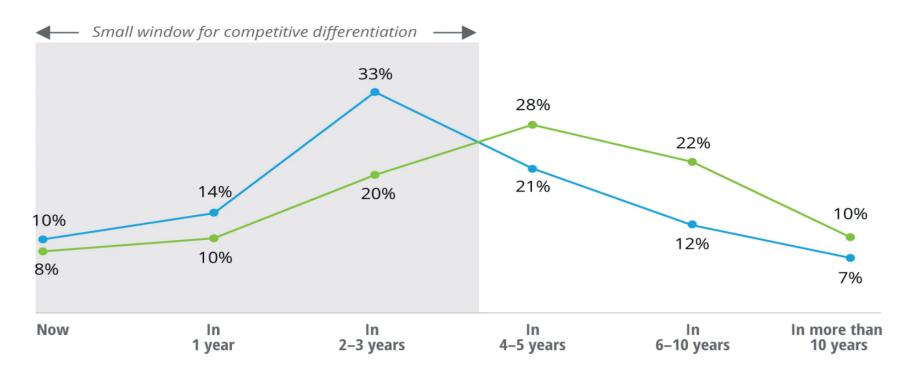
#### DEEP LEARNING

Subset of ML which make the computation of multi-layer neural network feasible

#### FIGURE 1

## The window for competitive differentiation with AI is quickly closing

— AI will transform our company — AI will transform our industry



Note: Percentages may not total 100 percent due to a small number of respondents who answered "Don't know." Source: Deloitte State of AI in the Enterprise survey, 2nd Edition, 2018.

Deloitte Insights | deloitte.com/insights

# The emergence of MLaaS

 Similar to Infrastructure as a Service (IaaS) and Platform as a Service (PaaS) for cloud, Machine Learning as a Service (MLaaS) will power a wealth of conversational agents and chatbots, speech, natural language processing (NLP) and semantics, vision, and enhanced core algorithms programs

# **AI and Governance**

As AI systems become more powerful, governance of AI becomes a bigger topic and companies need to incorporate a governance model for AI that matches with their business.



Contact: Joseph.Wei@skychee.ventures

Sep. 23, 2019