Barnaby James

Principal Software Engineer / Director

Barnaby James

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Skills

- Applying computer perception, simulation, robotics & machine learning to novel real world problems
- Managing & growing project teams from 0 to 40 persons
- Hands on approach to technical leadership, quickly acquiring domain knowledge in real world problems
- Bridging product, research, hardware / software engineering and industry domain experts to increase project effectiveness
- Proficient in C++ / Java / Go / Python / Javascript
- 37 Issued patents focussed on applied machine learning
- Extensive experience hiring & mentoring software engineers

Experience

X (Google X) / Principal Software Engineer + Director

March 2017 - PRESENT

- Founded Tidal X Project
 - Develop strategy / technical approach & manage software project
- Incubated a variety of early pipeline machine learning & computer vision projects focussed on industrial automation
- Focus on problem driven experiment design & success metrics
- Hiring & Promotion committee

Google / Senior Staff Software Engineer

September 2007 - March 2017

- Tech Lead Manager for Google Assistant / Voice Search
 - Started Home Automation Actions project
 - Started <u>Actions on Google project</u>
 - Managed new device integrations team
 - Lead for Third-party integrations
- Google Travel Photo Ranking / Ranking of landmarks
- Google Workspace
 - TL for Google Sites
 - Apps Infrastructure
 - o Google Calendar
- Hiring & Promotion committee

Adobe Systems / Senior Computer Scientist

September 2001 - September 2007

- Tech lead for Acrobat Collaboration (6.0 / 7.0 / 8.0)
- Networking lead for Adobe AIR 1.0

CoVia Technologies / Principal Engineer

April 2000 - September 2001

- Collaborative Workspaces
- Scalable Calendar system

Nuance / Staff Software Engineer

July 1996 - April 2000

- Core Technologies Group
- Optical Character Recognition Engine
- Page Layout & Document Understanding

Education

University of Toronto / BSc Physics Honours

Class of 1996

• Particle Physics Specialization

Patents

Generating and transmitting invocation request to appropriate third-party agent / US 10,937,427

Selection of computational agent for task performance / US $10,\!853,\!747$

Securely executing voice actions using contextual signals to perform authentication / US 10,770,093

Trigger phrase for voice actions of software applications / US 10,741,183

Generating and transmitting invocation request to appropriate third-party agent / US 10,714,086

Processing voice commands based on device topology / US 10,699,707

Voice to text conversion based on third-party agent content / US 10,600,418

Fish biomass, shape, and size determination / US 10,599,922 $\,$

Fish measurement station keeping / US 10,534,967

Selecting photographs for a destination or point of interest / US 10,510,129

Task initiation using sensor dependent context long-tail voice commands / US 10,490,190

Task initiation using long-tail voice commands by weighting strength of association of the tasks and their respective commands based on user feedback / US 10,297,254

 $Generating \ and \ transmitting \ invocation \ request \ to \ appropriate \ third-party \ agent \ / \ US \ 10,224,031$

Securely executing voice actions with speaker identification and authentication input types / US 10,127,926

Voice action biasing system / US 10,089,982

Providing voice action discoverability example for trigger term / US 10,049,670

Developer voice actions system / US 9,922,648

Selecting photographs for a destination or point of interest / US 9,805,428 $\,$

Voice action biasing system / US 9,691,384

Document-authorized access to a shared workspace Various embodiments / US 9,491,150

Selecting photographs for a destination or point of interest / US 9,483,495

Selecting photographs for a destination / US 9,076,079

Content review with proxy comment management / US 9,130,905 $\,$

Document-authorized access to a shared workspace / US 9,166,954 $\,$

Method and apparatus for customizing presentation of notification lists / US 8,244,796 $\,$

Searching a database of selected and associated resources / US 8,190,602 $\,$

Distributed computing document recognition and processing / US 6,742,161 $\,$

Developer voice actions system / EU 3424045

Facilitating creation and playback of user-recorded audio / UK 2559643

Voice to text conversion based on third-party agent content / UK 2557400 $\,$

Processing voice commands based on device topology / UK 2567067

Facilitating creation and playback of user-recorded audio / $\hbox{EU}\,3504704$

Voice action biasing system / EU 3479374

Securely executing voice actions using contextual signals / EU 3469587

Voice action discoverability system / UK 2551232

Processing voice commands based on device topology / UK 2557404 $\,$

Citizenship

- USA
- Canada
- United Kingdom